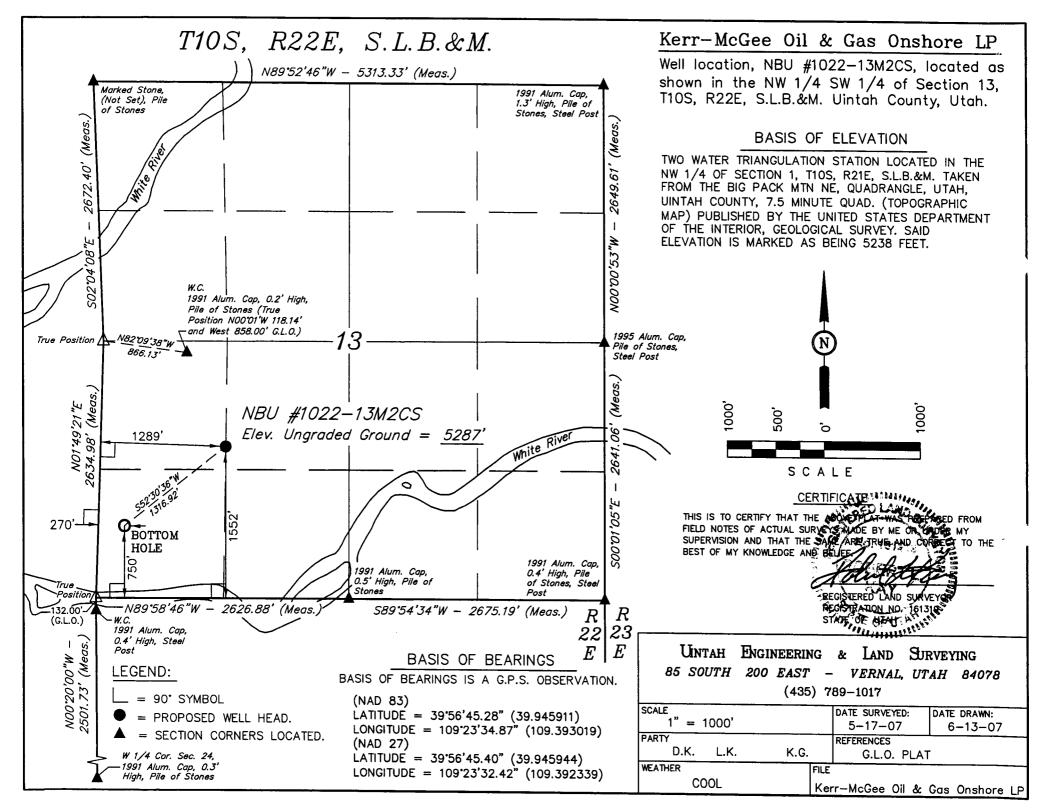
# STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

F	О	R	М	3
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AMENDED REPORT (highlight changes)

	A	APPLICAT	ION FOR	PERMIT TO	DRILL		5. MINERAL LEASE NO: STUO-08512-ST	6. SURFACE: State
1A. TYPE OF WO	PRK: DI	RILL 🔽 F	REENTER [	DEEPEN			7. IF INDIAN, ALLOTTEE OR 1	RIBE NAME:
B. TYPE OF WE	LL: OIL	GAS 🗹 C	THER	SIN	GLE ZONE MULTIPLE ZON	E 🔽	8. UNIT OF CA AGREEMENT N UNIT #891008900	
2. NAME OF OPE		SAS ONSHO	RE L.P.				9. WELL NAME and NUMBER NBU 1022-13M20	
3. ADDRESS OF 0		CITY VERNA	ΔΙ	TE UT ZIP 840	PHONE NUMBER: (435) 781-7024		10. FIELD AND POOL, OR WI	
	WELL (FOOTAGE	(S) /27227	V 4422	783434	.945923 -109.3924	21	11. QTR/QTR, SECTION, TOV	
AT SURFACE:	1552'FSL,	1289'FWL	,		110 120 101.0721	"	MERIDIAN: NWSW 13 10S	3 22E
AT PROPOSED	PRODUCING ZON	ve: 750'FSL,	270'FWL	39 911:	713 -109.396048	7		
14. DISTANCE IN	MILES AND DIRE	CTION FROM NEAR	EST TOWN OR PO	ST OFFICE:		<u> </u>	12. COUNTY:	13. STATE: UTAH
		OF OURAY,					UINTAH	
15. DISTANCE TO 1289'	NEAREST PROP	ERTY OR LEASE LI	NE (FEET)	16. NUMBER OI	FACRES IN LEASE: 600.00	17. N	UMBER OF ACRES ASSIGNED	TO THIS WELL:
18. DISTANCE TO		(DRILLING, COMPL	ETED, OR	19. PROPOSED		20. B	OND DESCRIPTION:	
	R) ON THIS LEASE O TOPO C	(FEET)			8,220	<b>194</b>	B0000007 220(3	542
21. ELEVATIONS	(SHOW WHETHE	R DF, RT, GR, ETC.	<b>)</b> :	22. APPROXIMA	ATE DATE WORK WILL START:	23. E	STIMATED DURATION:	717
5278'GL								
24.			PROPOS	SED CASING AI	ND CEMENTING PROGRAM			
SIZE OF HOLE	CASING SIZE,	GRADE, AND WEIG	HT PER FOOT	SETTING DEPTH	CEMENT TYPE, QU	ANTITY,	YIELD, AND SLURRY WEIGHT	
12 1/4"	9 5/8	32.3#	H-40	2,100	265 SX CLASS G 1	l.18 Y	IELD 15.6 PPG	
7 7/8"	4 1/2	11.6#	I <b>-</b> 80	8,220	1320 SX 50/50 POZ 1	.31 Y	/IELD 14.3 PPG	
25.				ATTA	CHMENTS			
VERIFY THE FOL	LOWING ARE ATT	FACHED IN ACCORD	DANCE WITH THE	UTAH OIL AND GAS C	ONSERVATION GENERAL RULES:			
<b>✓</b> WELL PL	AT OR MAP PREP	ARED BY LICENSED	SURVEYOR OR E	ENGINEER	COMPLETE DRILLING PLAN			
_	E OF DIVISION O	F WATER RIGHTS A	PPROVAL FOR US	SE OF WATER		RSON C	OR COMPANY OTHER THAN TH	IE LEASE OWNER
	SHFII	.A UPCH <u>E</u> GO	<b>)</b>		SENIOR LAN	D AD	MIN SPECIALIST	
NAME (PLEASE	PRINT)	, //	Tinli	1/10				
SIGNATURE	MIL			4/10	DATE 7/31/2007			
(This space for Sta	te use only)			, dies. Mid , auto fing	Approved by the Utah Division of		RECEIV	ED
		13-047	2011X	- Aller	il, Gas and Mining		AUG 0 6 7	2007
API NUMBER AS	SIGNED:	7	0170		APPROVAL:			
				Date	: <u>09-11-0-77</u>	•	DIV. OF OIL, GAS	Or Minana

(11/2001)



## (I) KerrMcGee

**Kerr McGee Oil and Gas Onshore LP** 1368 SOUTH 1200 EAST • VERNAL, UT 84078 435-789-4433 • FAX 435-781-7094

July 31, 2007

Diana Whitney State of Utah Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-5801

RE:

Directional Drilling R649-3-11

NBU 1022-13M2CS

1552'FSL, 1289'FWL (Surface)

750'FSL, 270'FWL (Bottomhole)

Uintah County, Utah

Dear Ms. Whitney:

Pursuant to filling of Kerr McGee Oil & Gas Onshore L.P. Application for Permit to Drill regarding the above referenced well on July 31, 2007, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to location and siting of wells.

- NBU 1022-13M2CS is located within the Natural Buttes Unit Area.
- Kerr McGee Oil & Gas Onshore L.P., is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr McGee Oil & Gas Onshore L.P., will be able to utilize the existing road and pipeline in the area.
- Furthermore, Kerr McGee Oil & Gas Onshore L.P. hereby certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr McGee Oil & Gas Onshore L.P. requests that the permit be granted pursuant to R649-3-11.

Sincerely

Sheila Upchego

Senior Land Admin Specialist

RECEIVED
AUG 0 6 2007

DIV. OF OIL, GAS & MINING

### NBU 1022-13M2CS NW/SW SEC. 13, T10S, R22E UINTAH COUNTY, UTAH UTSTUO-08512-ST

#### **ONSHORE ORDER NO. 1**

#### DRILLING PROGRAM

#### 1. Estimated Tops of Important Geologic Markers:

<u>Formation</u>	<u>Depth</u>
Uinta	0- Surface
Green River	949'
Top of Birds Nest Water	1283'
Mahogany	1623'
Wasatch	3996'
Mesaverde	6222'
MVU2	7089'
MVL1	7665'
TD	8220'

#### 2. <u>Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations</u>:

Substance	<u>Formation</u>	<u>Depth</u>
	Green River	949'
Water	Top of Birds Nest Water	1283'
	Mahogany	1623'
Gas	Wasatch	3996'
Gas	Mesaverde	6222'
Gas	MVU2	7089'
Gas	MVL1	7665'
Water	N/A	
Other Minerals	N/A	

#### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program.

#### 4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program.

#### 5. <u>Drilling Fluids Program:</u>

Please refer to the attached Drilling Program.

The operator will use fresh water mud with 0-8% Bio Diesel.

#### 6. Evaluation Program:

Please refer to the attached Drilling Program.

#### 7. Abnormal Conditions:

Maximum anticipated bottomhole pressure calculated at 8220' TD, approximately equals 5096 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 3288 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

#### 8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

#### 9. <u>Variances:</u>

Please refer to the attached Drilling Program.

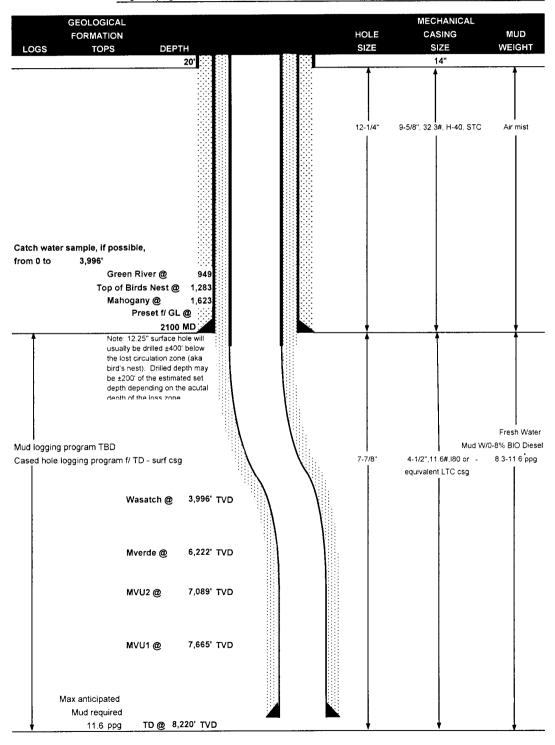
#### 10. Other Information:

Please refer to the attached Drilling Program.



#### KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

KERR-McGEE OIL & GAS ONSHORE LP COMPANY NAME July 31, 2007 8,220' TVD NBU 1022-13M2CS TD WELL NAME ELEVATION 5,287' GL KB 5,302' FIELD Natural Buttes COUNTY Uintah STATE Utah NW/SW SEC. 13, T10S, R22E 1552'FSL, 1289'FWL SURFACE LOCATION Latitude: 39.945911 Longitude: 109.393019 BTM HOLE LOCATION SW/SW/SW SEC. 13, T10S, R22E 750'FSL, 270'FWL OBJECTIVE ZONE(S) Wasatch/Mesaverde Regulatory Agencies: UDOGM (MINERALS AND SURFACE), BLM, Tri-County Health Dept. ADDITIONAL INFO





#### KERR-McGEE OIL & GAS ONSHORE LP **DRILLING PROGRAM**

#### CASING PROGRAM

								DESIGN FACTORS			
	SIZE	IN	TERV	/AL	WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION	
CONDUCTOR	14"		0-40								
								2270	1370	254000	
SURFACE	9-5/8"	0	to	2100	32.30	H-40	STC	0.72*****	1.39	4:28	
								7780	6350	201000	
PRODUCTION	4-1/2"	0	to	8220	11.60	1-80	LTC	2.47	1.28	2.42	

- 1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point)
- 2) MASP (Prod Casing) = Pore Pressure at TD (.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 0.0 ppg) .22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

MASP 3150 psi

Burst SF is low but csg is much stronger than formation at 2000'. EMW @ 2000' for 2270# is 21.8 ppg or 1.13 psi/ft

#### CEMENT PROGRAM

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEA	500	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1		+ .25 pps flocele				
TOP OUT CMT (1	200	20 gals sodium silicate + Premium cmt	50		15.60	1.18
		+ 2% CaCl + .25 pps flocele				
TOP OUT CMT (2	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
SURFACE		NOTE: If well will circulate water to	surface, o	ption 2 will	be utilized	
Option 2 LEA	1500	65/35 Poz + 6% Gel + 10 pps gilsonite	360	35%	12.60	1.81
		+.25 pps Flocele + 3% salt BWOW				
TAI	500	Premium cmt + 2% CaCI	180	35%	15.60	1.18
		+ .25 pps flocele				
TOP OUT CM	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION LEAD	5,720'	Premium Lite II + 3% KCI + 0.25 pps	620	60%	11.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TAI	2,500'	50/50 Poz/G + 10% salt + 2% gel	700	60%	14.30	1.31
		+.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 15% excess if accurate caliper is obtained

#### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.	
PRODUCTION	Float shoe, 1 jt, float collar. Centralize first 3 joints & every third joint to top of tail cement with bow spring centralizers.	

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installi	ng. Test surface	casing to	1,500 psi prior	to drilling out.

BOPE: 11" 5M with one annular and 2 rams. Test to 5,000 psi (annular to 2,500 psi) prior to drilling out. Record on chart recorder &

tour sheet. Function test rams on each trip. Maintain safety valve & inside BOP on rig floor at all times. Kelly to be equipped with upper

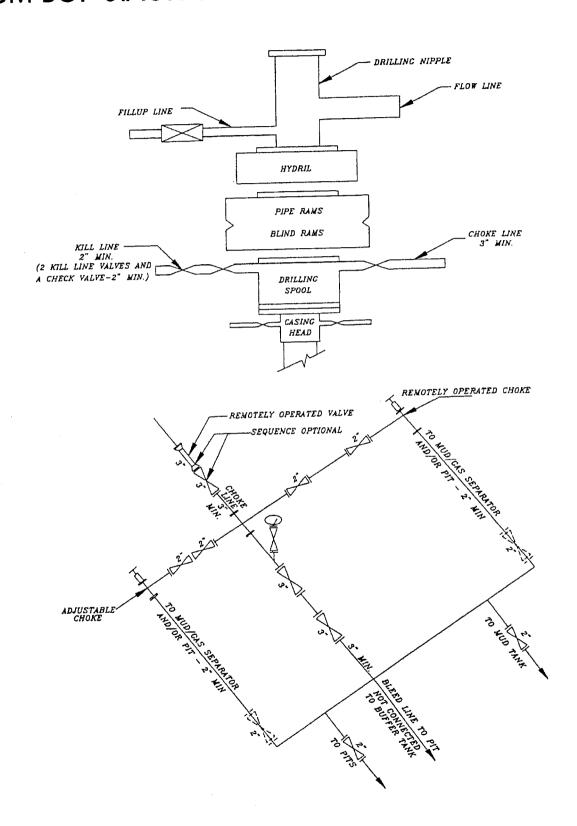
& lower kelly valves.

Drop Totco surveys every 2000'. Maximum allowable hole angle is 5 degrees.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:		DATE:
	Brad Laney	
DRILLING SUPERINTENDENT:		DATE:
	Randy Bayne	

# 5M BOP STACK and CHOKE MANIFOLD SYSTEM



#### NBU 1022-13M2CS NW/SW SEC. 13, T10S, R22E Uintah County, UT UTSTUO-08512-ST

#### ONSHORE ORDER NO. 1

#### **MULTI-POINT SURFACE USE & OPERATIONS PLAN**

#### 1. Existing Roads:

Refer to Topo Map A for directions to the location.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

Refer to Topo Maps A and B for location of access roads within a 2 mile radius.

All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

#### 2. Planned Access Roads:

The operator will utilize an existing access road. Refer to Topo Map B for the location of the existing access road.

The upgraded and new portions of the access road will be crowned and ditched with a running surface of 18 feet and a maximum disturbed width of 30 feet. Appropriate water control will be installed to control erosion.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.

The access road was centerline flagged during time of staking.

Surfacing material may be necessary, depending upon weather conditions.

Surface disturbance and vehicular traffic will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

#### 3. Location of Existing Wells Within a 1-Mile Radius:

Please refer to Topo Map C.

#### 4. Location of Existing & Proposed Facilities:

The following guidelines will apply if the well is productive.

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain

fluids (i.e., production tanks, produced water tanks, and/or heater/treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The required color is Carlsbad Canyon, standard color number 2.5Y 6/2.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

A 30' rights of way will be required for approximately 12,184' +/- of 6" steel pipeline is proposed. The pipeline shall run from the location into Section 18, T10S, R23E (Lease #UTU-38421) and travel north into Sec. 7, T10S, R23E (Lease #UTU-49226) to tie-in to and existing pipeline. Refer to the attached Topo Map D for pipeline placement.

A 30' rights of way will be required for approximately 12,184' +/- of 10" steel pipeline is proposed. The pipeline shall run from the location into Section 18, T10S, R23E (Lease #UTU-38421) and travel north into Sec. 7, T10S, R23E (Lease #UTU-49226) to tie-in to and existing pipeline. Refer to the attached Topo Map D for pipeline placement.

#### 5. Location and Type of Water Supply:

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32, T4S, R3E, Water User Claim #43-8496, Application #53617.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### 6. Source of Construction Materials:

Surface and subsoil materials in the immediate area will be utilized.

Any gravel will be obtained from a commercial source.

#### 7. Methods of Handling Waste Materials:

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, will be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit walls. The reserve pit will be constructed so that it will not leak, break, or allow discharge of liquids.

Due to difficult topography and proximity to the White River, the reserve pit will be constructed utilizing a double liner and felt. The liner will be approximately 60 mil in thickness versus our standard 20 mil and the reserve pit will also have a leak detection system installed between the liners.

Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical porta-toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

Any produced water from the proposed well will be contained in a water tank and will then be hauled By truck to one of the pre-approved disposal sites: RNI, Sec. 5, T9S, R22E, NBU #159, Sec. 35, T9S, R21E, Ace Oilfield, Sec. 2, T6S, R20E, MC&MC, Sec. 12, T6S, R19E.

#### 8. Ancillary Facilities:

None are anticipated.

#### 9. Well Site Layout: (See Location Layout Diagram)

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

The reserve pit will be lined, and when the reserve pit is closed, the pit liner will be buried below plow depth.

All pits will be fenced according to the following minimum standards:

39 inch net wire will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.

The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.

Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

The reserve pit fencing will be on three sides during drilling operations, and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

Location size may change prior to the drilling of the well due to current rig availability. If the proposed location is not large enough to accommodate the drilling rig the location will be resurveyed and a Form 9 shall be submitted.

#### 10. Plans for Reclamation of the Surface:

#### Producing Location:

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.

A plastic, nylon reinforced liner will be used, it shall be torn and perforated before backfilling of the reserve pit.

Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.

To prevent surface water (s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface three feet above surrounding ground surface to allow the reclaimed pit area to drain effectively.

Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

Dry Hole/Abandoned Location:

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified.

All disturbed surfaces will be recontoured to the approximate natural contours, with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. Reseeding operations will be performed after completion of other reclamation operations.

#### 11. <u>Surface Ownership</u>:

SITLA 675 East 500 South, Suite 500 Salt Lake City, UT 84102

#### 12. Other Information:

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, the approved Plan of Operations, and any applicable Notice of Lessees. The Operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The Operator will control noxious weeds along Rights-Of-Way for roads, pipelines, well sites, or other applicable facilities.

A Class III archaeological survey will be submitted when report becomes available.

This location is not within 460' from the boundary of the Natural Buttes Unit, nor is it within 460' of any non-committed tract lying within the boundaries of the Unit.

#### 13. Lessee's or Operators's Representative & Certification:

Sheila Upchego Senior Land Admin Specialist Kerr-McGee Oil & Gas Onshore LP 1368 South 1200 East. Vernal, UT 84078 (435) 781-7024 Randy Bayne Drilling Manager Kerr-McGee Oil & Gas Onshore LP 1368 South 1200 East Vernal, UT 84078 (435)781-7018

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond #RLB0005237.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by the Operator, its contractors, and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Sheila Upchego

7/31/2007

Date



## **Weatherford**\*

## **Drilling Services**

## **Proposal**



### **ANADARKO - KERR McGEE**

NBU#1022-13M2CS

**UINTAH COUNTY, UTAH** 

WELL FILE: PLAN2

DATE: JULY 12, 2007

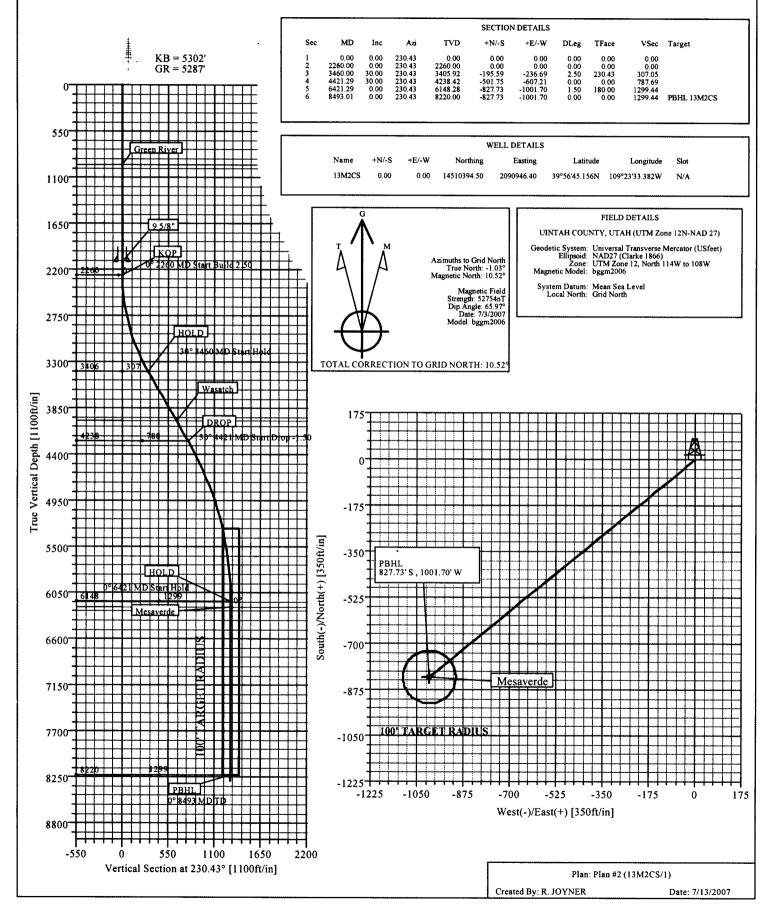
#### Weatherford International, Ltd.

15710 John F. Kennedy Blvd Houston, Texas 77032 USA +1.281.260.1300 Main +1.281.260.4730 Fax www.weatherford.com

## Aradario (1)

#### KERR MCGEE OIL & GAS NBU #1022-13M2CS UINTAH COUNTY, UTAH





### Weatherford Drilling Services DIRECTIONAL PLAN REPORT



Company: Anadarko-Kerr-McGee

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27) Field:

Site: NBU 1022-13M2CS Well: 13M2CS

Wellpath:

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

Section (VS) Reference:

Survey Calculation Method:

Well (0.00N,0.00E,230.43Azi)

Minimum Curvature

Site: NBU 1022-13M2CS, Grid North

Db: Sybase

Plan: Plan #2

No

Date Composed:

Version:

Date: 7/13/2007

Tied-to:

7/12/2007

Time: 08:05:28

SITE 5302.0

From Surface

Field:

Principal:

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)

Map System: Universal Transverse Mercator (USfeet)

Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level

Map Zone: Coordinate System: UTM Zone 12, North 114W to 108W

Site Centre Geomagnetic Model: bgam2006

NBU 1022-13M2CS

Site Position: Мар From:

Position Uncertainty:

Easting:

Northing: 14510394.50 ft 2090946.40 ft Latitude: Longitude:

39 56 45.156 N 109 23 33.382 W

North Reference: Grid Convergence: Grid 1.03 deg

Ground Level: Well: Well Position:

Wellpath: 1

Current Datum:

Magnetic Data:

Field Strength:

13M2CS

+N/-S0.00 ft

Northing: 14510394.50 ft Easting: 2090946.40 ft

Height 5302.00 ft

Slot Name: Latitude: Longitude:

56 45.156 N 39 109 23 33.382 W

Surface

+E/-W Position Uncertainty:

0.00 ft 0.00 ft

0.00 ft

5287.00 ft

SITE

7/3/2007 52754 nT

Depth From (TVD) Vertical Section: ft

0.00

+N/-S ft

0.00

Drilled From: Tie-on Depth: Above System Datum:

+E/-W

ft

0.00

Declination: Mag Dip Angle:

Mean Sea Level 11.55 deg 65.97 deg Direction

0.00 ft

deg 230.43

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100f	Turn t deg/100ft	TFO deg	Target
0.00	0.00	230.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2260.00	0.00	230.43	2260.00	0.00	0.00	0.00	0.00	0.00	0.00	
3460.00	30.00	230.43	3405.92	-195.59	-236.69	2.50	2.50	0.00	230.43	
4421.29	30.00	230.43	4238.42	-501.75	-607.21	0.00 .	0.00	0.00	0.00	
6421.29	0.00	230.43	6148.28	-827.73	-1001.70	1.50	-1.50	0.00	180.00	
8493.01	0.00	230.43	8220.00	-827.73	-1001.70	0.00	0.00	0.00	0.00	PBHL 13M2CS

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
2100.00	0.00	230.43	2100.00	0.00	0.00	0.00	0.00	14510394.50	2090946.40	9 5/8"
2200.00	0.00	230.43	2200.00	0.00	0.00	0.00	0.00	14510394.50	2090946.40	
2260.00	0.00	230.43	2260.00	0.00	0.00	0.00	0.00	14510394.50	2090946.40	KOP
2300.00	1.00	230.43	2300.00	-0.22	-0.27	0.35	2.50	14510394.28	2090946.13	
2400.00	3.50	230.43	2399.91	-2.72	-3.30	4.27	2.50	14510391.78	2090943.10	
2500.00	6.00	230.43	2499.56	-8.00	-9.68	12.55	2.50	14510386.50	2090936.72	
2600.00	8.50	230.43	2598.75	-16.04	-19.41	25.17	2.50	14510378.46	2090926.99	
2700.00	11.00	230.43	2697.30	-26.82	-32.46	42.11	2.50	14510367.68	2090913.94	
2800.00	13.50	230.43	2795.02	-40.34	-48.81	63.32	2.50	14510354.16	2090897.59	
2900.00	16.00	230.43	2891.71	-56.55	-68.44	88.78	2.50	14510337.95	2090877.96	
3000.00	18.50	230.43	2987.21	-75,44	-91.30	118.43	2.50	14510319.06	2090855.10	
3100.00	21.00	230.43	3081.32	-96.96	-117.34	152.22	2.50	14510297.54	2090829.06	
3200.00	23.50	230.43	3173.87	-121.08	-146.53	190.08	2.50	14510273.42	2090799.87	
3300.00	26.00	230.43	3264.67	-147.75	-178.80	231.95	2.50	14510246.75	2090767.60	
3400.00	28.50	230.43	3353.57	-176.91	-214.09	277.73	2.50	14510217.59	2090732.31	

### Weatherford Drilling Services **DIRECTIONAL PLAN REPORT**



Company: Anadarko-Kerr-McGee UINTAH COUNTY, UTA UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27) NBU 1022-13M2CS

Site:

13M2CS Wellpath: 1

Well:

Date: 7/13/2007 Co-ordinate(NE) Reference:

Vertical (TVD) Reference: Section (VS) Reference:

Survey Calculation Method:

Time: 08:05:28 Page: : Site: NBU 1022-13M2CS, Grid North

SITE 5302.0

Well (0.00N,0.00E,230.43Azi)

Minimum Curvature Db: Sybase

MD	Incl	Azim	TVD	N/S	E/W	VS	DLS	MapN	MapE	Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ftÎ	ft	
3460.00	30.00	230.43	3405.92	-195.59	-236.69	307.05	2.50	14510198.91	2090709.71	HOLD
3500.00	30.00	230.43	3440.56	-208.33	-252.11	327.05	0.00	14510186.17	2090694.29	
3600.00	30.00	230.43	3527.16	-240.18	-290.65	377.05	0.00	14510154.32	2090655.75	
3700.00	30.00	230.43	3613.76	-272.03	-329.20	427.05	0.00	14510122.47	2090617.20	
3800.00	30.00	230.43	3700.36	-303.87	-367.74	477.05	0.00	14510090.63	2090578.66	
2000 00	30.00	230.43	3786.97	-335.72	-406.29	527.05	0.00	14510058.78	2090540.11	
3900.00	30.00	230.43	3873.57	-367.57	-444.83	577.05	0.00	14510036.76	2090501.57	
4000.00					-444.83 -483.37	627.05	0.00	14509995.08	2090463.03	
4100.00	30.00	230.43	3960.17	-399.42						Maaatab
4141.37 4200.00	30.00 30.00	230.43 230.43	3996.00 4046.77	-412.60 -431.27	-499.32 -521.92	647.73 677.05	0.00 0.00	14509981.90 14509963.23	2090447.08 2090424.48	Wasatch
4200.00	30.00	230.43	4040.77	-431.27	-521.52			14009900.20		
4300.00	30.00	230.43	4133.38	-463.12	-560.46	727.05	0.00	14509931.38	2090385.94	
1400.00	30.00	230.43	4219.98	-494.97	-599.00	777.05	0.00	14509899.53	2090347.40	DDOD
1421.29	30.00	230.43	4238.42	-501.75	-607.21	787.69	0.00	14509892.75	2090339.19	DROP
4500.00	28.82	230.43	4306.98	-526.37	-637.00	826.34	1.50	14509868.13	2090309.40	
4600.00	27.32	230.43	4395.22	-556.34	-673.28	873.39	1.50	14509838.16	2090273.12	
4700.00	25.82	230.43	4484.65	-584.83	-707.75	918.12	1.50	14509809.67	2090238.65	
4800.00	24.32	230.43	4575.23	-611.82	-740.42	960.49	1.50	14509782.68	2090205.98	
1900.00	22.82	230.43	4666.89	-637.29	-771.24	1000.48	1.50	14509757.21	2090175.16	
5000.00	21.32	230.43	4759.56	-661.23	-800.20	1038.05	1.50	14509733.27	2090146.20	
5100.00	19.82	230.43	4853.18	-683.61	-827.29	1073.18	1.50	14509710.89	2090119.11	
E200 22	10.00	230.43	4947.69	-704.42	-852.47	1105.85	1.50	14509690.08	2090093.93	
5200.00	18.32									
5300.00	16.82	230.43	5043.02	-723.65	-875.74	1136.04	1.50	14509670.85	2090070.66	
5400.00	15.32	230.43	5139.11	-741.28	-897.08	1163.72	1.50	14509653.22	2090049.32	
5500.00	13.82	230.43	5235.89	-757.30	-916.47	1188.87	1.50	14509637.20	2090029.93	
5545.36	13.14	230.43	5280.00	-764.03	-924.62	1199.44	1.50	14509630.47	2090021.78	ENTER TGT CYL
5600.00	12.32	230.43	5333.30	-771.70	-933.90	1211.48	1.50	14509622.80	2090012.50	
5700.00	10.82	230.43	5431.27	-784.48	-949.36	1231.54	1.50	14509610.02	2089997.04	
5800.00	9.32	230.43	5529.72	-795.62	-962.84	1249.02	1.50	14509598.88	2089983.56	
5900.00	7.82	230.43	5628.60	-805.11	-974.32	1263.92	1.50	14509589.39	2089972.08	
3000.00	6.32	230.43	5727.84	-812.95	-983.81	1276.23	1.50	14509581.55	2089962.59	
2400.00	4.00	000.40	5007.00	040.40	004.00	4005.00	4.50	14500575 27	20000EE 11	
6100.00	4.82	230.43	5827.36	-819.13	-991.29	1285.93	1.50	14509575.37	2089955.11	
3200.00	3.32	230.43	5927.11	-823.65	-996.76	1293.03	1.50	14509570.85	2089949.64	
300.00	1.82	230.43	6027.01	-826.50	-1000.22	1297.51	1.50	14509568.00	2089946.18	
3400.00	0.32	230.43	6126.99	-827.69	-1001.65	1299.38	1.50	14509566.81	2089944.75	
6421.29	0.00	230.43	6148.28	-827.73	-1001.70	1299.44	1.50	14509566.77	2089944.70	HOLD
6495.01	0.00	230.43	6222.00	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	Mesaverde
3500.00	0.00	230.43	6226.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
600.00	0.00	230.43	6326.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
3700.00	0.00	230.43	6426.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
800.00	0.00	230.43	6526.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
5900.00	0.00	230.43	6626.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
7000.00	0.00	230.43	6726.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
		230.43	6826.99	-827.73 -827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
7100.00 7200.00	0.00	230.43	6926.99		-1001.70	1299.44	0.00	14509566.77	2089944.70	
7300.00	0.00	230.43	7026.99	-827.73 -827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
7400.00	0.00	230.43 230.43	7126.99 7226.99	-827.73 -827.73	-1001.70 -1001.70	1299.44 1299.44	0.00 0.00	14509566.77 14509566.77	2089944.70 2089944.70	
7500.00						1299.44				
7600.00	0.00	230.43	7326.99	-827.73	-1001.70		0.00	14509566.77	2089944.70	
7700.00 7800.00	0.00 0.00	230.43 230.43	7426.99 7526.99	-827.73 -827.73	-1001.70 -1001.70	1299.44 1299.44	0.00 0.00	14509566.77 14509566.77	2089944.70 2089944.70	
7900.00	0.00	230.43	7626.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
3000.00	0.00	230.43	7726.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
3100.00	0.00	230.43	7826.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	

### **Weatherford Drilling Services DIRECTIONAL PLAN REPORT**



Company: Anadarko-Kerr-McGee

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27) NBU 1022-13M2CS Field:

Site:

13M2CS Well: Wellpath: 1

Date: 7/13/2007 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference:

Survey Calculation Method:

Time: 08:05:28 Page: : Site: NBU 1022-13M2CS, Grid North

SITE 5302.0

Well (0.00N,0.00E,230.43Azi)

Minimum Curvature Db: Sybase

MD	Incl	Azim	TVD	N/S	E/W	VS	DLS	MapN	MapE	Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	ft	
3200.00	0.00	230.43	7926.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
3300.00	0.00	230.43	8026.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	
8400.00	0.00	230.43	8126.99	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	PBHL 13M2CS
8493.01	0.00	230.43	8220.00	-827.73	-1001.70	1299.44	0.00	14509566.77	2089944.70	

I	aı	g	ets
_		_	

Name	Description Dip.	ı Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	< Latitude> Deg Min Sec	< Longitude> Deg Min Sec
PBHL 13M2CS -Circle (Radiu -Plan hit targe			8220.00	-827.73	-1001.70	14509566.77	2089944.70	39 56 37.154 N	109 23 46.434 W

#### **Casing Points**

#### Annotation

MD ft	TVD ft	
2260.00	2260.00	KOP
3460.00	3405.92	HOLD
4421.29	4238.42	DROP
5545.36	5280.00	ENTER TGT CYLINDER
6421.29	6148.28	HOLD
8493.01	8220.00	PBHL

#### **Formations**

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
949.00	949.00	Green River		0.00	0.00
4141.37	3996.00	Wasatch	•	0.00	0.00
6495.01	6222.00	Mesaverde		0.00	0.00

### **Weatherford Drilling Services Anticollision Report**

Date:



Company: Field:

Anadarko-Kerr-McGee

100.00 ft

NBU 1022-13M2CS Reference Site:

Reference Well: 13M2CS Reference Wellpath: 1

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

Time: 16:03:42

Page:

Site: NBU 1022-13M2CS, Grid North SITE 5302.0

Dh: Sybase

NO GLOBAL SCAN: Using user defined selection & scan criteria Interpolation Method: MD Interval:

0.00 to

8493.01 ft

Reference: Error Model: Scan Method: Plan: Plan #2 ISCWSA Ellipse Closest Approach 3D

Error Surface: Ellipse

Plan:

Depth Range:

Maximum Radius: 10000.00 ft Plan #2

No

Date Composed:

7/12/2007

7/12/2007

Version: Tied-to:

From Surface

Principal:

<	Offset Wellpath -	>	Reference				Separation	
Site	Well	Wellpath	MD ft	MD ft	Distance ft	Distance ft	e Factor	Warning
NBU 1022-13M1S NBU 1022-13N1S	13M1S 13N1S	1 V0 Plan: Plan #1 V1 1 V0 Plan: Plan #2 V1	2200.00 2300.00	2200.00 2299.98	20.54 19.37	11.56 9.98	2.29 2.06	

Site:

NBU 1022-13M1S

Well: 13M1S

1 V0 Plan: Plan #1 V1 Wellnath:

Inter-Site Error:

0.00 ft

Offset Location Ctr-Ctr Edge Offset Semi-Major Axis Separation Reference TFO-HS North TVD Distance Distance Factor Warning MD TVD MD Ref Offset East ft deg ft ft ft ff ff ft ft ft ft -15.30 -13.7020.54 No Data 0.00 0.00 0.00 0.00 0.00 221.84 0.00 100.00 100.00 0.09 0.09 221.84 -15.30 -13.7020.54 20.36 115 36 100.00 100.00 221.84 -15.30 -13.70 20.54 19.94 34.41 200.00 200.00 200.00 0.30 0.30 200.00 20.22 221.84 -15.30 -13.7020.54 19.52 300.00 300.00 0.51 0.51 300.00 300.00 400.00 400.00 400.00 400.00 0.72 0.72 221.84 -15.30-13.7020.54 19.10 14.32 11.08 500.00 500.00 0.93 0.93 221.84 -15.30 -13.7020.54 18.68 500.00 500.00 20.54 18.26 9.04 1.14 221 84 -15.30 -13.70600.00 600.00 600.00 600.00 1.14 700.00 700.00 700.00 700.00 1.35 1.35 221.84 -15.30 -13.7020.54 17.85 7.63 221.84 -15.30 -13.7020.54 17.43 6.60 800.00 800.00 800.00 800.00 1.56 1.56 900.00 1.76 1.76 221.84 -15.30 -13.70 20.54 17.01 5.82 900.00 900.00 900.00 1000.00 1000.00 1000.00 1.97 1.97 221.84 -15.30-13.7020.54 16.59 5.20 1000.00 221.84 -13.70 20.54 16.17 4.70 1100.00 1100.00 1100.00 2.18 2.18 -15.30 1100.00 -13.70 20.54 15.75 4.29 1200.00 1200.00 1200.00 1200.00 2.39 2.39 221 84 -15.3020.54 3.95 1300.00 1300.00 1300.00 1300.00 2.60 2.60 221.84 -15.30 -13.7015.33 1400.00 221.84 -15.30 -13.70 20.54 14.91 3.65 1400.00 1400.00 1400.00 2.81 2.81 1500.00 1500.00 3.02 221.84 -15.30 -137020.54 14.49 3.40 1500.00 1500.00 3.02 14.08 1600.00 1600.00 1600.00 1600.00 3.23 3.23 221.84 -15.30 -13.7020.54 3.18 221.84 -13.7020.54 13.66 2.99 1700.00 1700.00 1700.00 3.44 3.44 -15.301700.00 1800.00 221.84 20.54 13.24 2.81 1800.00 3.65 3.65 -15.30-13.701800.00 1800.00 1900.00 1900.00 1900.00 1900.00 3.86 3.86 221.84 -15.30 -13.7020.54 12.82 2.66 221.84 -13.7020.54 12.40 2.52 2000.00 2000.00 2000.00 2000.00 4 07 4.07 -15.30-13.7020.54 11.98 2.40 2100.00 2100.00 2100.00 2100.00 4.28 4.28 221.84 -15.302200.00 221.84 -15.30 -13.7020.54 11.56 2.29 2200.00 2200.00 2200.00 4.49 4.49 2299.03 4.70 4.69 351.31 -16.89 -15.14 22.35 12.97 2.38 2300.00 2299.06 2300.00 350.07 -21.64 -19.4324.96 15.17 2.55 2400.00 2399.91 2398.01 2397.76 4.91 4.90 27.61 2.72 2499.56 2496.83 2496.00 5.12 347.78 -29.54-26.57 2500.00 5.12 2598.75 2595.54 2593.58 5.35 5.35 344 73 -40.56 -36.5330.35 19.82 2.88 2600.00 3.05 2700.00 2697.30 2694.13 2690.31 5.59 5.61 341.16 -54.66 -49.2933.27 22.37 337.24 -71.81 -64.79 36.43 25.15 3.23 2800.00 2795.02 2792.59 2786.01 5.86 5.90 2891.71 2890.92 2880.50 6 18 6 24 333.15 -91.97 -83.02 39.91 28.21 3.41 2900.00 3.60 2989.13 2973.63 6.63 329.00 -115.08 -103.92 43.76 31.59 3000.00 2987.21 6.55 3.77 3100.00 3081.32 3087.31 3065.31 6.98 7.09 324.91 -141.12 -127.46 48.05 35.30 319.46 -168.91 -152.58 50.80 37.21 3.74 3187.15 3157.86 7.48 7.61 3200.00 3173.87 51.00 36.21 3 45 3300.00 3264.67 3286.87 3250.29 8.07 8.16 311.11 -196.67 -177 68 298.85 -224.33 -202.69 50.03 33.52 3.03 3400.00 3353.57 3386.27 3342.42 8.74 9.34 282.45 -251.87 -227.59 50.39 31.76 2.70 3485.21 3434.14 9.50 3500.00 3440.56

### **Weatherford Drilling Services Anticollision Report**



Company: Field:

Anadarko-Kerr-McGee

NBU 1022-13M2CS Reference Site:

13M2CS Reference Well: Reference Wellpath: 1

Date: 7/12/2007 UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

Time: 16:03:42

Site: NBU 1022-13M2CS, Grid North

SITE 5302.0

Db: Sybase

8400.00

8493.01

8126.99

8260.73

8220.00 8343.74 8210.00

NBU 1022-13M1S 13M1S

00.00 3613.76 36828.9 3617.37 11.13 10.58 253.99 .306.89 .277.33 62.60 40.99 2.90   00.00 3706.97 3880.67 3800.61 12.87 11.87 237.36 .361.91 .327.08 84.53 61.31 3.64   00.00 3768.97 3880.67 3800.61 12.87 11.87 237.36 .361.91 .327.08 84.53 61.31 3.64   00.00 360.17 4078.24 3983.84 14.66 13.20 227.88 .416.93 .376.82 110.55 85.92 4.49   00.00 436.77 478.05 4074.63 15.58 13.76 224.70 .44.82 .401.22 124.52 92.24 4.99   00.00 4373.38 4272.37 416.82 15.58 13.76 224.70 .44.82 .401.22 124.52 92.24 4.99   00.00 421.99 43.67.85 4255.04 17.43 14.34 218.21 492.17 .444.94 138.13 132.49 6.17   00.00 421.99 4462.55 4445.75 18.74 14.83 212.65 .53.30 8.451.83 13.02 17 14.75 5.57   00.00 421.99 4462.55 425.64 192.7 15.65 210.04 .559.92 24.97 9.00 24.00 4395.22 458.81 4435.76 18.74 14.83 212.65 .53.30 8.451.83 197.07 17.17 7.77   00.00 4395.23 4744.07 4617.32 19.79 15.26 208.54 .567.03 .512.52 238.04 211.07 9.46   00.00 4575.23 4744.07 4617.32 19.79 15.26 208.54 .567.03 .512.52 238.04 211.07 9.46   00.00 4653.18 502.19 2 4890.31 21.22 15.72 204.19 .605.15 .546.99 29.34 3 205.57 10.31   00.00 4855.18 502.92 4890.31 21.22 15.72 204.19 .605.15 .546.99 29.34 3 205.57 10.31   00.00 4876.95 5113.76 4891.28 2164 15.82 203.1 15.94 205.55 42.55 43 255.4 255.4 255.04   00.00 543.02 520.52 5072.15 2.20 15.99 201.93 .622.20 .562.40 330.64 306.78 13.86   00.00 543.12 7 556.74 5343.72 23.02 15.94 199.12 .635.55 .456.69 293.43 260.07 12.05   00.00 543.12 7 556.74 5343.72 23.02 15.94 199.12 .635.55 .456.49 293.43 260.07 12.05   00.00 523.33 50 547.35 22.33 23.95 15.99 19.80 .638.8 4.575.64 43.94 19.39 37.77 17.80   00.00 523.35 5387.06 5253.42 22.77 15.90 19.90 .626.25 .556.44 13.05 30.64 30.67 8 13.86   00.00 523.35 9 560.73 626.89 24.70 16.94 19.90 .568.8 4.575.64 48.89 41.89 37.99 17.80   00.00 523.35 9 560.73 626.89 24.70 16.94 19.90 .568.8 4.575.64 48.68 7 428.49 11.80   00.00 626.99 6600.73 626.99 24.77 17.10 65.87 638.84 -575.64 466.87 428.90 12.11 1.10   00.00 726.99 7860.73 726.99 24.47 17.10 65.87 638.84 -575.64 466.87 428.90 12.11 1.10	Well: Wellpath:	13M1S 1 V0 Plar	n: Plan #1 V	<b>′</b> 1						Inter-Sit	e Error:	0.00	ft	
The color of the													Warring	
1000   10000   10000   10000   10000   10000   10000   10000   10000   10000   10000   1000												ractor	Warning	
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0.000	3800.00	3700.36	3781.73	3708.99	11.99	11.22	244.44	-334.40	-302.20			3.24		
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00.00 3960.17 4078.24 3983.84 14.66 13.20 227.98 416.93 376.82 110.55 85.92 4.49 00.00 4133.38 4272.37 4164.82 16.50 14.07 221.44 468.99 423.88 140.27 114.76 5.50 00.00 4219.88 4367.85 4255.04 17.43 14.34 218.21 49.21 7.448.84 140.27 1124.59 92.61 12.00 00 42.00 4575.23 4740.07 4617.32 19.79 15.26 208.54 567.03 512.52 236.04 211.07 9.46 00.00 4863.18 5021.92 4890.31 21.22 15.72 204.19 -605.15 546.99 23.34 269.07 12.05 00.00 4863.18 5021.92 4890.31 21.22 15.72 204.19 -605.15 546.99 293.43 269.07 12.05 00.00 5493.02 550.25 516.28 20.24 15.94 20.00 5403.02 5205.23 5072.15 22.03 15.90 201.93 -602.25 51.43 20.00 5403.02 5205.23 5072.15 22.03 15.90 201.93 -602.25 50.00 5554.40 30.67 8 13.86 00.00 5133.30 5162.88 22.40 15.94 200.93 -622.60 567.88 384.67 25.24 20.00 552.37 20.00 5235.89 5387.06 5234.92 12.72 12.00 19.3 -622.00 562.40 30.64 306.78 13.86 00.00 5133.30 5162.88 22.40 15.94 20.00 3 -622.60 567.88 346.23 261.60 16.78 00.00 5403.02 5205.23 5072.15 22.03 15.94 199.12 -635.53 574.45 384.62 261.60 16.78 00.00 5529.77 5662.88 22.40 15.94 199.12 -635.53 574.45 384.62 261.60 16.78 00.00 5403.02 5205.23 5072.15 22.03 15.94 199.12 -635.53 574.45 384.62 261.60 16.78 00.00 522.73 562.86 23.67 16.01 18.92 363.67 16.01 18.93 366.83 343.57 15.77 00.00 5529.77 566.84 562.60 5762.35 522.71 12.00 19.3 -636.84 575.64 48.00 19.1 379.3 12.94 18.00 00.00 5403.02 5205.35 562.86 23.67 16.01 196.29 -635.75 564.45 40.00 19.1 379.3 12.9 14.80 00.00 5207.36 562.60 5762.35 529.71 12.39 16.25 16.00 196.32 -636.84 575.64 40.00 19.1 379.3 12.9 14.80 00.00 5207.36 562.60 5762.35 529.71 12.30 16.25 16.00 196.32 -636.84 575.64 40.00 19.1 379.3 12.0 16.33 12.0 16.0 16.78 16.00	4000.00	3873.57	3979.40	3892.22	13.76	12.53	232.05	-389.42	-351.95	97.22	73.30	4.06		
00000 413338 427237 4164.62 16.50 14.07 221.44 468.99 423.88 140.27 114.76 5.50 0 0 0 0 4305.02 4768.75 4255.04 17.43 14.07 221.47 446.84 99 423.88 140.27 114.76 6.17 0 0 0 0 4305.22 4556.81 4435.76 18.74 14.83 212.56 6.33 08 481.83 197.07 171.72 7.77 0 0 0 0 4305.22 4556.81 4435.76 18.74 14.83 212.56 6.33 08 481.83 197.07 171.72 7.77 0 0 0 0 42575.23 4744.07 4617.32 19.79 15.26 208.54 667.03 512.52 236.04 211.07 9.46 0 0 0 0 4666.89 4857.09 4708.28 20.29 15.43 260.92 4879.8 21.00 21.00 50.00 4853.18 5021.92 4890.31 21.22 15.72 204.19 605.15 548.99 23.43 260.07 12.05 0 0 0 0 4853.18 5021.92 4890.31 21.22 15.72 204.19 605.15 548.99 23.43 260.07 12.05 0 0 0 0 0 4575.93 17.37 4881.28 21.64 15.82 203.01 614.50 555.44 312.15 288.03 12.94 10.00 5043.02 5205.23 5072.15 22 03 15.99 201.93 622.20 562.40 330.64 306.78 13.86 0 0 0 0 0 5043.02 5205.23 5072.15 22 03 15.99 201.93 622.20 562.40 330.64 306.78 13.86 0 0 0 0 0 5043.02 5205.23 5072.15 22 30 15.99 20.19 3 622.20 562.40 330.64 306.78 13.86 0 0 0 0 0 5433.27 565.84 243.72 23.02 15.99 198.29 6-363.77 575.58 401.91 379.37 17.83 0 0 0 0 5312.75 5659.79 5433.72 23.02 15.99 198.29 6-363.77 575.58 401.91 379.37 17.83 0 0 0 0 5227.36 5661.88 576.49 5433.72 23.02 15.99 198.29 6-363.77 575.68 401.91 379.37 17.83 0 0 0 0 527.74 560.00 502.73 5662.74 20 23.91 16.17 195.94 636.84 575.64 400.89 433.66 17.04 15.83 0 0 0 0 0 527.73 5661.58 572.74 23.91 16.17 195.94 636.84 575.64 466.87 428.94 17.32 15.23 10.00 0 0 6262.99 660.07 626.99 23.99 16.42 195.44 636.84 575.64 466.87 428.94 17.32 16.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4100.00	3960.17	4078.24	3983.84	14.66	13.20	227.98	-416.93	-376.82	110.55	85.92			
0000 4219.98 4367.85 4255.04 17.43 14.34 218.21 492.17 444.84 158.13 132.49 6.17  0000 4306.89 4482.55 4345.27 18.21 14.59 2151.5 513.50 464.13 177.63 151.95 6.94  0000 4365.22 4556.81 4343.57 18.74 14.83 212.5 6.533.08 481.83 177.65 151.95 7.77  0000 4844.65 4650.65 4526.46 19.27 15.05 210.40 -550.92 497.96 216.60 191.44 8.61  00.00 4765.23 4744.07 4617.32 17.97 15.26 20.65 4.567.3 5-12.52 236.04 211.07 9.46  00.00 4769.56 492.70 4799.29 20.76 15.59 205.48 -596.70 3.512.52 230.07 10.31  00.00 4769.56 18.3 5021.92 480.31 12.12 15.72 204.19 -6051.5 5-46.99 29.34 269.07 12.05  00.00 4947.69 5113.76 4981.28 21.64 15.82 20.31 1.614.50 -555.44 312.15 288.03 12.94  00.00 5943.00 5043	4200.00	4046.77	4176.05	4074.63	15.58									
00.00 4306.98 4462.55 4345.27 18.21 14.59 215.13 -513.50 464.13 177.53 151.95 6.94   00.00 4395.22 4556.81 4435.76 18.74 14.83 212.56 -533.08 481.83 197.07 171.72 7.77   00.00 4846.46 456.05 6 4526.46 19.27 15.05 210.40 -550.92 -497.96 216.60 191.44 8.61   00.00 4575.23 4744.07 4617.32 19.79 15.26 208.54 -567.03 -512.52 236.04 211.07 9.46   00.00 4666.89 4837.09 4708.28 20.29 15.43 206.92 -581.43 -525.54 255.34 230.57 10.31   00.00 4863.18 5021.92 4890.31 21.22 15.72 204.19 -605.15 -546.99 243.3 269.07 12.05   00.00 4947.99 5113.76 4981.28 21.64 15.82 203.01 -614.50 -555.44 321.5 288.03 12.94   00.00 5043.02 5205.23 5072.15 22.03 15.90 201.93 -622.20 -562.40 330.64 306.78 13.86   00.00 5043.02 5205.23 5072.15 22.03 15.90 201.93 -622.20 -562.40 330.64 306.78 13.86   00.00 5333.30 5477.45 5343.74 23.27 15.90 198.29 -633.57 571.89 366.83 343.77 15.77   00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 -633.57 575.58 401.91 379.37 17.83   00.00 5227.86 561.58 522.34 15.23 15.90 198.29 -633.67 575.58 401.91 379.37 17.83   00.00 5227.36 5661.58 522.72 23.99 15.91 19.39 -633.64 575.64 448.49 391.02 15.23   00.00 5227.36 5661.58 529.72 3.39 15.93 197.49 -638.84 -575.64 448.49 391.02 15.23   00.00 5227.36 5661.58 529.72 3.39 15.23 19.59 19.29 -633.67 575.64 440.64 417.39 19.10 15.83   00.00 5227.36 5661.58 5927.11 23.98 16.25 195.67 -633.84 -575.64 440.68 143.99 31.73   00.00 6226.99 6260.73 6126.99 23.99 16.42 195.44 -633.84 -575.64 466.87 428.91 12.21   00.00 6226.99 6360.73 6126.99 23.99 16.42 195.44 -633.84 -575.64 466.87 428.91 12.21   00.00 6226.99 6360.73 6126.99 24.07 16.70 65.87 -633.84 -575.64 466.87 428.91 12.21   00.00 6226.99 6360.73 6226.99 24.07 16.70 65.87 -633.84 -575.64 466.87 428.91 12.21   00.00 6226.99 6360.73 6226.99 24.07 16.70 65.87 -633.84 -575.64 466.87 428.91 12.21   00.00 6226.99 6360.73 6226.99 24.07 16.70 65.87 -633.84 -575.64 466.87 428.91 12.21   00.00 6226.99 6360.73 6226.99 24.07 16.70 65.87 -633.84 -575.64 466.87 428.91 12.21   00.00 6226.99 6360.73 6226.99 24.07 16.87 68.87 -633.84 -57	4300.00	4133.38	4272.37	4164.82	16.50	14.07								
00.00	4400.00	4219.98	4367.85	4255.04	17.43	14.34	218.21	-492.17	-444.84	158.13	132.49	6.17		
00 00 4484.65 4850.65 4826.66 19.27 15.05 210.40 -550.92 -497.96 216.60 191.44 8.61 00.00 4575.23 4744.07 4617.32 19.79 15.26 208.54 -567.03 -512.52 236.04 211.07 9.46 00.00 4666.89 4837.09 4708.28 20.29 15.43 206.92 -581.43 -525.54 255.34 230.57 10.31 00.00 4769.56 4292.70 4799.29 20.76 15.59 205.48 -594.13 -525.54 255.34 230.57 10.31 00.00 4769.56 4292.70 4799.29 20.76 15.59 205.48 -594.13 -525.54 255.34 230.57 10.31 00.00 4863.18 5021.92 4880.31 21.22 15.72 204.19 -805.15 -546.99 293.43 259.07 12.05 00.00 4947.69 5113.76 4981.28 21.64 15.82 203.01 -614.50 -555.44 312.15 288.03 12.94 00.00 5043.02 5205.23 5072.15 22.03 15.90 211.93 -622.20 -562.40 30.06 306.78 13.86 00.00 5139.11 5296.32 5162.88 22.40 15.94 200.93 -622.60 -567.88 340.87 325.29 14.80 00.00 5333.30 5477.45 5343.72 23.02 15.94 19.12 -635.53 -574.45 343.25 21 48.00 00.00 5333.30 5477.45 5343.72 23.02 15.94 19.12 -635.53 -574.45 384.52 361.60 16.78 00.00 525.89 562.80 562.80 23.67 16.01 19.83 -636.84 -575.64 418.49 391.02 15.23 00.00 5628.60 5762.35 5628.80 23.67 16.01 19.83 -636.84 -575.64 444.54 417.32 16.33 00.00 5628.60 5762.35 5628.60 23.67 16.01 19.83 -638.84 -575.64 445.54 405.40 15.83 00.00 5628.60 5762.35 5628.60 23.67 16.01 19.83 -638.84 -575.64 446.81 439.93 10.70 40.00 00.00 5425.99 680.73 6226.99 23.98 16.42 195.44 -636.84 -575.64 466.81 439.93 17.37 17.04 00.00 622.01 6180.75 6027.01 24.00 16.34 195.50 -638.84 -575.64 466.81 439.93 17.37 17.04 00.00 622.69 6400.73 6226.99 24.07 16.01 65.87 -636.84 -575.64 466.87 428.49 12.21 00.00 622.69 6400.73 6226.99 24.17 16.80 65.87 -636.84 -575.64 466.87 428.49 12.21 00.00 622.69 6400.73 6226.99 24.17 16.80 65.87 -636.84 -575.64 466.87 428.49 12.21 00.00 622.69 6400.73 6226.99 24.17 16.80 65.87 -636.84 -575.64 466.87 428.49 12.21 00.00 622.69 6400.73 6226.99 24.17 16.80 65.87 -636.84 -575.64 466.87 428.49 12.21 00.00 622.69 7600.73 626.69 24.17 16.80 65.87 -636.84 -575.64 466.87 428.49 12.21 00.00 622.69 7600.73 626.69 24.17 16.80 65.87 -636.84 -575.64 466.87 428.49 12.11 17.4 00.00 726.99 7600	4500.00	4306.98	4462.55	4345.27	18.21							6.94		
0000 4575.23 4744.07 4617.32 19.79 15.26 208.54 567.03 512.52 236.04 211.07 9.46 0000 4666.89 4837.09 4708.28 20.29 15.43 206.92 581.43 525.54 235.57 10.31 0000 4866.89 4837.09 4708.28 20.29 15.43 206.92 581.43 525.54 235.57 10.31 0000 4866.89 4837.09 4708.28 20.29 15.43 206.92 581.43 525.54 255.34 230.57 10.31 0000 4876.95 4890.31 21.22 15.72 204.19 505.15 546.99 293.43 269.07 12.05 10.00 4947.69 113.76 4891.28 21.64 15.82 203.01 514.5 555.44 312.15 288.03 12.94 10.00 5497.69 113.76 4891.28 21.64 15.82 203.01 514.5 555.44 312.15 288.03 12.94 10.00 543.02 5205.23 5072.15 2.03 15.90 201.93 622.20 562.40 330.64 306.78 13.86 10.00 5139.11 5296.32 5162.88 22.40 15.94 200.93 622.20 562.40 330.64 306.78 13.86 10.00 5235.89 5387.06 5253.42 22.72 15.96 200.00 632.69 5671.89 366.83 343.57 15.77 15.00 000 5235.89 5387.06 5253.42 22.72 15.96 200.00 632.69 571.89 366.83 343.57 15.77 15.00 000 5431.27 5567.49 5433.74 23.02 15.94 199.12 635.53 574.45 384.52 361.60 16.78 10.00 00 5205.72 5683.47 5529.72 23.49 15.93 197.49 636.84 575.64 418.49 310.2 15.23 10.00 00 5207.72 5683.47 5529.72 23.49 15.93 197.49 636.84 575.64 418.49 310.2 15.23 10.00 00 5207.72 5683.47 5529.72 23.49 15.93 197.49 636.84 575.64 418.49 310.2 15.23 10.00 00 5207.10 600.85 5927.11 23.98 16.25 195.67 636.84 575.64 432.74 405.40 15.83 10.00 00 5207.11 6160.75 6027.01 24.00 16.34 195.50 636.84 575.64 466.87 428.79 12.26 10.00 00 6326.99 6360.73 6126.99 24.07 16.70 66.87 636.84 575.64 466.87 428.94 12.31 10.00 00 6226.99 660.73 6126.99 24.07 16.70 66.87 636.84 575.64 466.87 428.99 17.37 10.00 00 6226.99 660.73 6226.99 24.07 16.70 66.87 636.84 575.64 466.87 428.99 17.37 10.00 00 626.99 660.73 626.99 24.17 16.89 65.87 636.84 575.64 466.87 428.99 12.26 10.00 00 626.99 660.73 626.99 24.17 16.89 65.87 636.84 575.64 466.87 428.99 12.16 10.00 00 626.99 660.73 626.99 24.17 16.89 65.87 636.84 575.64 466.87 428.00 12.01 11.00 00.00 626.99 760.73 7626.99 24.17 17.00 65.87 636.84 575.64 466.87 428.00 12.01 11.00 00.00 726.99 760.73 762.69 24.17 17.00 65.87 636.84 575.64	4600.00	4395.22	4556.81	4435.76	18.74	14.83	212.56	-533.08	-481.83	197.07	171.72	7.77		
00.00 4575.23 4744.07 4617.32 19.79 15.26 208.54 - 567.03 - 512.52 236.04 211.07 9.46   00.00 4666.89 4837.09 4708.29 20.29 15.43 206.92 - 5814.33 - 525.54 255.34 230.57 10.31   00.00 4769.56 429.970 4799.99 20.76 15.59 205.48 - 594.13 537.03 274.49 249.92 11.17   00.00 4853.18 5021.92 4890.31 21.22 15.72 204.19 - 605.15 - 546.99 239.43 269.07 12.05   00.00 5043.02 5205.23 5072.15 20.03 15.90 201.93 - 622.0 565.44 312.15 288.03 12.94   00.00 5139.11 5296.32 5162.88 22.40 15.94 20.99 3 - 622.0 562.40 330.64 306.78 13.86   00.00 5333.30 5477.45 5343.72 23.02 15.94 199.12 - 6335.53 - 574.45 384.52 361.60 16.78   00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 - 636.77 - 575.58 401.91 379.37 17.83   00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 - 636.84 - 575.64 418.49 310.2 15.23   00.00 5628.60 5762.35 5628.60 23.67 16.01 196.83 -636.84 - 575.64 418.49 310.2 15.23   00.00 5272.78 4 5881.58 5727.84 23.91 16.17 195.94 - 636.84 - 575.64 450.74 450.40 15.83   00.00 5272.11 6060.85 5927.11 23.98 16.25 195.67 - 6336.84 - 575.64 450.87 426.74 16.73   00.00 6027.01 6160.75 6027.01 24.00 16.34 195.50 - 636.84 - 575.64 450.87 426.74 16.73   00.00 6226.99 660.73 6226.99 24.07 16.07 65.87 -636.84 - 575.64 460.87 428.94 12.21   00.00 6226.99 660.73 6226.99 24.07 16.07 65.87 -636.84 - 575.64 466.87 428.94 12.21   00.00 6262.99 660.073 6226.99 24.12 16.80 66.87 -636.84 - 575.64 466.87 428.94 12.21   00.00 6262.99 660.73 6226.99 24.12 16.80 66.87 -636.84 - 575.64 466.87 428.94 12.21   00.00 6262.99 660.73 6226.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.94 12.21   00.00 6262.99 660.73 626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.94 12.21   00.00 6262.99 660.73 626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.94 12.21   00.00 6262.99 760.73 7026.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.90 12.16   00.00 726.99 760.73 7026.99 24.17 17.98 65.87 -636.84 -575.64 466.87 428.00 12.01   00.00 726.99 760.73 7026.99 24.17 17.98 65.87 -636.84 -575.64 466.87 428.00 12.01   00.00 726.99 760.73 7026.99 24.17 17.98 65.8	4700.00		4650.65	4526.46	19.27	15.05	210.40	-550.92	-497.96					
00.00	4800.00		4744.07	4617.32	19.79	15.26	208.54	-567.03	-512.52					
00.00	4900.00	4666.89	4837.09	4708.28	20.29	15.43	206.92	-581.43	-525.54	255.34	230.57	10.31		
00.00	5000.00	4759.56	4929.70		20.76	15.59	205.48	-594.13	-537.03					
00.00	5100.00	4853.18	5021.92	4890.31	21.22					293.43	269.07	12.05		
00.00 5139.11 5296.32 5162.88 22.40 15.94 200.93 -628.26 -567.88 348.87 325.29 14.80  00.00 5235.89 5387.06 5253.42 22.72 15.96 200.00 -632.69 -571.89 366.83 343.57 15.77  00.00 5333.30 5477.45 5343.72 23.02 15.94 199.12 -635.53 -574.45 384.52 361.60 16.78  00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 -636.77 -575.58 401.91 379.37 17.83  00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 -636.77 -575.58 401.91 379.37 17.83  00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 -636.77 -575.58 401.91 379.37 17.83  00.00 5427.35 5683.47 5529.72 23.49 15.93 197.49 -636.84 -575.64 418.49 391.02 15.23  00.00 527.784 5861.58 5727.84 23.81 16.01 196.83 -636.84 -575.64 444.54 417.32 16.33  00.00 527.36 5961.11 5827.36 23.91 16.17 195.94 -636.84 -575.64 444.54 417.32 16.33  00.00 527.31 6080.85 5927.11 23.98 16.25 195.67 -636.84 -575.64 460.69 433.66 17.04  00.00 6027.01 6160.75 6027.01 24.00 16.34 195.50 -636.84 -575.64 466.81 439.93 17.37  00.00 6226.99 6360.73 6226.99 23.98 16.42 195.44 -638.84 -575.64 466.81 439.93 17.37  00.00 6226.99 6680.73 6226.99 23.97 16.51 65.87 -636.84 -575.64 466.87 428.99 12.26  00.00 62626.99 6680.73 6226.99 24.02 16.61 65.87 -636.84 -575.64 466.87 428.99 12.26  00.00 6262.99 6680.73 6226.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.99 12.26  00.00 6262.99 6680.73 6226.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.99 12.16  00.00 6262.99 6680.73 6226.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.99 12.16  00.00 6262.99 7080.73 6226.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.90 12.16  00.00 626.99 7080.73 6226.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.90 12.16  00.00 626.99 7080.73 6226.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.90 12.16  00.00 626.99 7080.73 6226.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.00 12.11  00.00 626.99 7080.73 7226.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.90 12.16  00.00 726.99 7080.73 7226.99 24.51 17.50 65.87 -636.84 -575.64 466.87 428.90 12.11  00.00 726.99 7080.73 7226.99 24.51 17.50 65.87 -636.84 -575.64 466.87 426.30 11.90  0	5200.00		5113.76		21.64					312.15	288.03			
00.00 5235.89 5387.06 5253.42 22.72 15.96 200.00 -632.69 -571.89 366.83 343.57 15.77   00.00 5333.30 5477.45 5343.72 23.02 15.94 199.12 -635.53 -574.45 384.52 361.60 16.78   00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 -636.77 -575.58 401.91 379.37 17.83   00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 -636.77 -575.58 401.91 379.37 17.83   00.00 5529.72 5663.47 5529.72 23.49 15.93 197.49 -636.84 -575.64 444.89 39.10 15.23   00.00 5628.60 5762.35 5628.60 23.67 16.01 196.83 -636.84 -575.64 444.54 417.32 16.33   00.00 5727.84 5861.58 5727.84 23.81 16.09 196.32 -636.84 -575.64 444.54 417.32 16.33   00.00 527.36 5961.11 5827.36 23.91 16.17 195.94 -636.84 -575.64 453.87 426.74 16.73   00.00 5927.11 6080.85 5927.11 23.98 16.25 195.67 -636.84 -575.64 465.09 433.66 17.04   00.00 6027.01 6160.75 6027.01 24.00 16.34 195.50 -636.84 -575.64 466.09 433.66 17.25   00.00 6126.99 6260.73 6126.99 23.98 16.42 195.44 -636.84 -575.64 466.81 439.93 17.37   00.00 6226.99 6360.73 6226.99 23.98 16.42 195.44 -636.84 -575.64 466.81 439.93 17.37   00.00 6226.99 6660.73 6326.99 24.07 16.61 65.87 -636.84 -575.64 466.87 428.94 12.31   00.00 6266.99 6560.73 626.89 24.07 16.70 65.87 -636.84 -575.64 466.87 428.94 12.16   00.00 6526.99 6660.73 626.89 24.17 16.89 65.87 -636.84 -575.64 466.87 428.49 12.16   00.00 6626.99 6660.73 626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.93 12.16   00.00 6626.99 7060.73 6926.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.94 12.16   00.00 6926.99 7060.73 6926.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.94 12.16   00.00 6926.99 7060.73 6926.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.94 12.16   00.00 726.99 760.73 726.99 24.51 17.52 65.87 -636.84 -575.64 466.87 428.94 12.16   00.00 726.99 760.73 726.99 24.57 17.64 65.87 -636.84 -575.64 466.87 428.90 12.01   00.00 726.99 760.73 726.99 24.51 17.50 65.87 -636.84 -575.64 466.87 428.90 12.01   00.00 726.99 760.73 726.99 24.57 17.64 65.87 -636.84 -575.64 466.87 427.30 11.80   00.00 726.99 760.73 726.99 24.51 17.42 65.87 -636.84 -575.64 466.87 426.3	5300.00	5043.02	5205.23	5072.15	22.03									
00.00 5333.30 5477.45 5343.72 23.02 15.94 199.12 -635.53 -574.45 384.52 361.60 16.78 00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 -636.75 75.58 401.91 379.37 17.83 00.00 5529.72 5663.47 5529.72 23.49 15.93 197.49 -636.84 -575.64 418.49 391.02 15.23 00.00 5628.60 5762.35 5628.60 23.67 16.01 196.83 -636.84 -575.64 432.74 405.40 15.83 00.00 527.36 5961.11 5527.36 23.91 16.17 195.94 -636.84 -575.64 444.54 417.32 16.33 00.00 527.36 5961.11 5527.36 23.91 16.17 195.94 -636.84 -575.64 453.87 426.74 16.73 00.00 527.11 608.08 5 5927.11 23.98 16.25 195.67 -636.84 -575.64 466.09 433.66 17.04 00.00 6027.01 6160.75 6027.01 24.00 16.34 195.50 -636.84 -575.64 465.01 438.06 17.25 00.00 6126.99 6260.73 6126.99 23.98 16.42 195.44 -636.84 -575.64 466.81 439.93 17.37 00.00 6226.99 6360.73 6226.99 24.07 16.70 65.87 -636.84 -575.64 466.87 428.79 12.26 00.00 6426.99 6560.73 6426.99 24.07 16.70 65.87 -636.84 -575.64 466.87 428.79 12.26 00.00 6526.99 6660.73 6526.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.49 12.16 00.00 6526.99 6660.73 6626.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.49 12.16 00.00 6526.99 6660.73 6626.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.49 12.16 00.00 6526.99 7060.73 6626.99 24.12 16.80 65.87 -638.84 -575.64 466.87 428.49 12.16 00.00 6526.99 7060.73 6626.99 24.33 17.20 65.87 -636.84 -575.64 466.87 428.10 12.10 00.00 6926.99 7060.73 6626.99 24.33 17.20 65.87 -636.84 -575.64 466.87 428.10 12.11 00.00 6926.99 7060.73 6626.99 24.33 17.20 65.87 -636.84 -575.64 466.87 428.10 12.11 00.00 6926.99 7060.73 6626.99 24.33 17.20 65.87 -636.84 -575.64 466.87 428.10 12.01 12.01 00.00 7126.99 7260.73 7126.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 726.99 7460.73 726.99 24.31 17.36 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 726.99 760.73 726.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 726.99 7600.73 726.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 726.99 7860.73 7226.99 24.70 17.87 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 726.99 7860.73 7226.9	5400.00	5139.11	5296.32	5162.88	22.40	15.94	200.93	-628.26	-567.88	348.87	325.29	14.80		
00.00 5333.30 5477.45 5343.72 23.02 15.94 199.12 -635.53 -574.45 384.62 361.60 16.78 00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 -636.77 -575.58 401.91 379.37 17.83 00.00 5529.72 5663.47 5529.72 23.49 15.93 197.49 -636.84 -575.64 418.49 391.02 15.23 00.00 5628.60 5762.35 5628.60 23.67 16.01 196.83 -636.84 -575.64 444.54 417.32 16.33 00.00 527.36 5961.11 52627.36 23.91 16.17 195.94 -636.84 -575.64 444.54 417.32 16.33 00.00 527.71 6006.85 5927.11 23.98 16.25 195.67 -636.84 -575.64 450.09 433.66 17.04 00.00 6027.01 6160.75 6027.01 24.00 16.34 195.50 -636.84 -575.64 465.01 438.06 17.25 00.00 6126.99 6260.73 6126.99 23.98 16.42 195.44 -636.84 -575.64 466.81 439.93 17.37 00.00 6226.99 6360.73 6226.99 24.07 16.70 65.87 -636.84 -575.64 466.87 428.79 12.26 00.00 6426.99 6560.73 6426.99 24.07 16.70 65.87 -636.84 -575.64 466.87 428.79 12.26 00.00 6426.99 6660.73 6626.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.94 12.21 00.00 6526.99 6760.73 6626.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.94 12.21 00.00 6526.99 6760.73 6626.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.94 12.21 00.00 6526.99 6760.73 6626.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.93 12.11 00.00 6726.99 6860.73 6626.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.33 12.11 00.00 6726.99 7660.73 6626.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.33 12.11 00.00 6726.99 7660.73 6626.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.33 12.11 00.00 6726.99 7660.73 6626.99 24.33 17.20 65.87 -636.84 -575.64 466.87 428.30 12.11 00.00 6726.99 7660.73 7266.99 24.33 17.20 65.87 -636.84 -575.64 466.87 428.30 12.01	5500.00	5235.89	5387.06	5253.42	22.72	15.96	200.00	-632.69	-571.89	366.83	343.57	15.77		
00.00 5431.27 5567.49 5433.74 23.27 15.90 198.29 -636.77 -575.58 401.91 379.37 17.83   00.00 5529.72 5663.47 5529.72 23.49 15.93 197.49 -636.84 -575.64 418.49 391.02 15.23   00.00 5628.60 5762.35 5628.60 23.67 16.01 196.83 -636.84 -575.64 432.74 405.40 15.83   00.00 5827.36 5961.11 5827.36 23.91 16.17 195.94 -636.84 -575.64 444.54 417.32 16.33   00.00 5927.11 6060.85 5927.11 23.98 16.25 195.67 -636.84 -575.64 460.69 433.66 17.04   00.00 627.01 616.075 6027.01 24.00 16.34 195.50 -636.84 -575.64 466.81 439.93 17.37   00.00 6126.99 6260.73 6126.99 23.97 16.51 65.87 -636.84 -575.64 466.87 428.94 12.31   00.00 6326.99 6460.73 6326.99 24.07 16.70 65.87 -636.84 -575.64 466.87 428.64 12.21   00.00 6426.99 6760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.39 12.16   00.00 626.99 6760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.39 12.16   00.00 626.99 7660.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.39 12.16   00.00 626.99 7660.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.39 12.16   00.00 626.99 760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.39 12.16   00.00 626.99 760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.39 12.16   00.00 626.99 760.73 6626.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.39 12.16   00.00 626.99 760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.30 12.11   00.00 726.99 760.73 7026.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.09 12.16   00.00 726.99 760.73 7026.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.83 11.96   00.00 726.99 760.73 726.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.93 11.96   00.00 726.99 760.73 726.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.31 11.74   00.00 726.99 760.73 726.99 24.45 17.49 65.87 -636.84 -575.64 466.87 427.31 11.74   00.00 726.99 760.73 726.99 24.45 17.49 65.87 -636.84 -575.64 466.87 427.31 11.74   00.00 726.99 760.73 726.99 24.81 17.95 65.87 -636.84 -575.64 466.87 427.31 11.80   00.00 726.99 760.73 726.99 24.81 18.20 65.87 -636.84 -575.64 466.87 426.34 11.52   00.00 726.	5600.00					15.94	199.12	-635.53	-574.45	384.52	361.60	16.78		
00.00 5529.72 5663.47 5529.72 23.49 15.93 197.49 -636.84 -575.64 418.49 391.02 15.83   00.00 5727.84 5861.58 5727.84 23.81 16.01 196.83 -636.84 -575.64 444.54 417.32 16.33   00.00 5827.36 5961.11 5827.36 23.91 16.17 195.94 -636.84 -575.64 444.54 417.32 16.33   00.00 5927.11 6060.85 5927.11 23.98 16.25 195.67 -636.84 -575.64 460.69 433.66 17.04   00.00 6027.01 6160.75 6027.01 24.00 16.34 195.50 -636.84 -575.64 466.81 439.93 17.37   00.00 6126.99 6260.73 6126.99 23.98 16.24 195.44 -636.84 -575.64 466.81 439.93 17.37   00.00 6326.99 6360.73 6226.99 23.97 16.51 65.87 -636.84 -575.64 466.87 428.79 12.26   00.00 6326.99 6660.73 626.99 24.02 16.61 65.87 -636.84 -575.64 466.87 428.79 12.26   00.00 6526.99 6660.73 6626.99 24.17 16.80 65.87 -636.84 -575.64 466.87 428.99 12.16   00.00 626.99 6760.73 6626.99 24.17 16.80 65.87 -636.84 -575.64 466.87 428.99 12.16   00.00 626.99 6760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.99 12.16   00.00 626.99 7060.73 6626.99 24.17 16.80 65.87 -636.84 -575.64 466.87 428.99 12.16   00.00 626.99 7060.73 6626.99 24.17 16.80 65.87 -636.84 -575.64 466.87 428.99 12.16   00.00 626.99 7060.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.99 12.16   00.00 626.99 7060.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.00 12.01   00.00 626.99 7060.73 6626.99 24.22 17.00 65.87 -636.84 -575.64 466.87 428.10 12.01   00.00 726.99 760.73 7026.99 24.33 17.20 65.87 -636.84 -575.64 466.87 428.10 12.01   00.00 726.99 760.73 7026.99 24.33 17.31 65.87 -636.84 -575.64 466.87 427.83 11.96   00.00 726.99 760.73 726.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.48 11.85   00.00 726.99 760.73 726.99 24.51 17.40 65.87 -636.84 -575.64 466.87 427.48 11.85   00.00 726.99 760.73 726.99 24.51 17.49 65.87 -636.84 -575.64 466.87 427.33 11.63   00.00 726.99 760.73 726.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.33 11.69   00.00 726.99 760.73 726.99 24.45 17.49 65.87 -636.84 -575.64 466.87 427.33 11.69   00.00 726.99 760.73 726.99 24.51 17.53 65.87 -636.84 -575.64 466.87 426.92 11.69   00.00	5700.00				23.27	15.90	198.29	-636.77	-575.58	401.91	379.37	17.83		
00.00 5628.60 5762.35 5628.60 23.67 16.01 196.83 -636.84 -575.64 432.74 405.40 15.83  00.00 5727.84 5861.58 5727.84 23.81 16.09 196.32 -636.84 -575.64 444.54 417.32 16.33  00.00 5827.36 5961.11 5827.36 23.91 16.17 195.94 -636.84 -575.64 453.87 426.74 16.73  00.00 5927.11 6050.85 5927.11 23.98 16.25 195.67 -636.84 -575.64 465.87 426.74 17.25  00.00 6126.99 6260.73 6126.99 23.98 16.42 195.44 -636.84 -575.64 466.87 428.93 17.37  00.00 6226.99 6360.73 6226.99 23.97 16.51 65.87 -636.84 -575.64 466.87 428.79 12.26  00.00 6326.99 6460.73 6326.99 24.02 16.61 65.87 -636.84 -575.64 466.87 428.49 12.21  00.00 6526.99 6660.73 6526.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.49 12.16  00.00 6526.99 6760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.49 12.16  00.00 6726.99 6800.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.49 12.16  00.00 6726.99 6800.73 626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.09 12.16  00.00 6726.99 7600.73 6926.99 24.22 17.00 65.87 -636.84 -575.64 466.87 428.00 12.01  00.00 6926.99 7600.73 6926.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.00 12.01  00.00 6926.99 7600.73 7026.99 24.33 17.20 65.87 -636.84 -575.64 466.87 428.00 12.01  00.00 7026.99 7160.73 7026.99 24.33 17.31 65.87 -636.84 -575.64 466.87 427.83 11.96  00.00 7226.99 7360.73 7226.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.33 11.96  00.00 7226.99 7560.73 7226.99 24.63 17.54 65.87 -636.84 -575.64 466.87 427.33 11.96  00.00 7226.99 7560.73 7226.99 24.63 17.54 65.87 -636.84 -575.64 466.87 427.30 11.80  00.00 7226.99 7660.73 7326.99 24.63 17.55 65.87 -636.84 -575.64 466.87 427.30 11.80  00.00 7226.99 7660.73 7326.99 24.63 17.75 65.87 -636.84 -575.64 466.87 427.30 11.80  00.00 7226.99 7660.73 7326.99 24.63 17.75 65.87 -636.84 -575.64 466.87 427.30 11.80  00.00 7226.99 7660.73 7326.99 24.63 17.75 65.87 -636.84 -575.64 466.87 427.30 11.69  00.00 7226.99 7660.73 7326.99 24.63 17.75 65.87 -636.84 -575.64 466.87 426.94 11.69  00.00 726.99 7660.73 726.99 24.91 18.22 65.87 -636.84 -575.64 466.87 426.94 11.69	5800.00	5529.72	5663.47	5529.72	23.49	15.93	197.49	-636.84	-575.64	418.49	391.02	15.23		
00.00 5827.36 5961.11 5827.36 23.91 16.17 195.94 636.84 -575.64 453.87 426.74 16.73 00.00 5927.11 6060.85 5927.11 23.98 16.25 195.67 636.84 -575.64 460.69 433.66 17.04 00.00 6027.01 6160.75 6027.01 24.00 16.34 195.50 -636.84 -575.64 465.01 438.06 17.25 00.00 6126.99 6260.73 6126.99 23.98 16.42 195.44 636.84 -575.64 466.81 439.93 17.37 00.00 6226.99 6360.73 6226.99 24.02 16.61 65.87 636.84 -575.64 466.87 428.94 12.31 00.00 6326.99 6460.73 6326.99 24.02 16.61 65.87 636.84 -575.64 466.87 428.79 12.26 00.00 6426.99 6560.73 6426.99 24.12 16.80 65.87 636.84 -575.64 466.87 428.49 12.16 00.00 6526.99 6600.73 6626.99 24.17 16.89 65.87 636.84 -575.64 466.87 428.33 12.11 00.00 6526.99 6600.73 6626.99 24.17 16.89 65.87 636.84 -575.64 466.87 428.33 12.11 00.00 6926.99 7060.73 6626.99 24.33 17.20 65.87 636.84 -575.64 466.87 428.00 12.01 00.00 6926.99 7060.73 6626.99 24.33 17.20 65.87 636.84 -575.64 466.87 428.00 12.01 00.00 6926.99 7060.73 6626.99 24.33 17.20 65.87 636.84 -575.64 466.87 428.00 12.01 00.00 7226.99 7160.73 7026.99 24.39 17.31 65.87 636.84 -575.64 466.87 428.00 12.01 00.00 7126.99 7260.73 7126.99 24.35 17.31 65.87 636.84 -575.64 466.87 427.83 11.96 00.00 7126.99 7260.73 7126.99 24.45 17.42 65.87 636.84 -575.64 466.87 427.48 11.85 00.00 7226.99 760.73 7226.99 24.45 17.42 65.87 636.84 -575.64 466.87 427.43 11.85 00.00 7226.99 7560.73 7426.99 24.45 17.45 65.87 636.84 -575.64 466.87 427.11 11.74 00.00 7426.99 7560.73 7426.99 24.45 17.45 65.87 636.84 -575.64 466.87 427.43 11.85 00.00 7426.99 7560.73 7426.99 24.51 17.53 65.87 636.84 -575.64 466.87 427.41 11.74 00.00 7426.99 7560.73 7426.99 24.63 17.75 65.87 636.84 -575.64 466.87 427.11 11.74 00.00 7426.99 7560.73 7426.99 24.63 17.75 65.87 636.84 -575.64 466.87 427.11 11.74 00.00 7426.99 7560.73 7426.99 24.70 17.87 65.87 636.84 -575.64 466.87 427.30 11.80 00.00 7426.99 7560.73 7426.99 24.70 17.87 65.87 636.84 -575.64 466.87 426.92 11.69 00.00 7626.99 7600.73 7626.99 24.70 17.87 65.87 636.84 -575.64 466.87 426.54 11.58 00.00 7626.99 7600.73 7626.99 24.70 17.87 65.87 63	5900.00	5628.60	5762.35	5628.60	23.67	16.01	196.83	-636.84	-575.6 <b>4</b>	432.74	405.40	15.83		
00.00 5827.36 5961.11 5827.36 23.91 16.17 195.94 -636.84 -575.64 453.87 426.74 16.73 17.04 10.00 5927.11 10.06.85 5927.11 23.98 16.25 195.67 -636.84 -575.64 460.69 433.66 17.04 17.05 10.00 10.00 6126.99 6260.73 6126.99 23.98 16.42 195.44 -636.84 -575.64 466.81 439.93 17.37 17	6000.00	5727.84	5861.58	5727.84	23.81	16.09	196.32	-636.84	-575.6 <b>4</b>	444.54	417.32	16.33		
00.00 5927.11 6060.85 5927.11 23.98 16.25 195.67 -636.84 -575.64 460.69 433.66 17.04 00.00 6027.01 6160.75 6027.01 24.00 16.34 195.50 -636.84 -575.64 465.01 438.06 17.25 00.00 6126.99 6260.73 6126.99 23.98 16.42 195.44 -636.84 -575.64 466.81 439.93 17.37 00.00 6226.99 6360.73 6226.99 23.97 16.51 65.87 -636.84 -575.64 466.87 428.94 12.31 00.00 6326.99 6460.73 6326.99 24.02 16.61 65.87 -636.84 -575.64 466.87 428.79 12.26 00.00 6426.99 6560.73 6426.99 24.07 16.70 65.87 -636.84 -575.64 466.87 428.94 12.21 00.00 6526.99 6660.73 6526.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.94 12.16 00.00 6626.99 6760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.33 12.11 00.00 6726.99 6860.73 6726.99 24.22 17.00 65.87 -636.84 -575.64 466.87 428.03 12.11 00.00 6926.99 7060.73 6826.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.00 12.01 00.00 6926.99 7060.73 6926.99 24.33 17.20 65.87 -636.84 -575.64 466.87 427.83 11.96 00.00 7026.99 7160.73 7026.99 24.39 17.31 65.87 -636.84 -575.64 466.87 427.83 11.96 00.00 7026.99 7260.73 7026.99 24.39 17.31 65.87 -636.84 -575.64 466.87 427.83 11.96 00.00 7026.99 7360.73 7026.99 24.35 17.42 65.87 -636.84 -575.64 466.87 427.83 11.96 00.00 7226.99 7560.73 7226.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.83 11.85 00.00 7226.99 7560.73 7226.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 7226.99 7560.73 7226.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 7226.99 7560.73 7226.99 24.50 17.87 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 7226.99 7560.73 7226.99 24.63 17.75 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7226.99 7560.73 7226.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7226.99 7560.73 7226.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7226.99 7560.73 7226.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7226.99 7560.73 7226.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7226.99 7600.73 7226.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7226.99 7600.73 7226.	6100.00					16.17	195.94	-636.84	-575.64	453.87	426.74	16.73		
00.00 6027.01 6160.75 6027.01 24.00 16.34 195.50 -636.84 -575.64 465.01 438.06 17.25   00.00 6126.99 6360.73 6126.99 23.98 16.42 195.44 -636.84 -575.64 466.81 439.93 17.37   00.00 6226.99 6360.73 6226.99 24.02 16.61 65.87 -636.84 -575.64 466.87 428.94 12.31   00.00 6326.99 6460.73 6326.99 24.02 16.61 65.87 -636.84 -575.64 466.87 428.09 12.26   00.00 6426.99 6560.73 6426.99 24.07 16.70 65.87 -636.84 -575.64 466.87 428.04 12.21   00.00 6526.99 6660.73 6526.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.33 12.11   00.00 6626.99 6760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.33 12.11   00.00 6626.99 6860.73 6726.99 24.22 17.00 65.87 -636.84 -575.64 466.87 428.00 12.01   00.00 6826.99 6960.73 6826.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.00 12.01   00.00 6826.99 7060.73 6926.99 24.33 17.20 65.87 -636.84 -575.64 466.87 428.00 12.01   00.00 7026.99 7160.73 7026.99 24.39 17.31 65.87 -636.84 -575.64 466.87 427.83 11.96   00.00 7026.99 7360.73 7226.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.48 11.85   00.00 7226.99 7360.73 7226.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.30 11.80   00.00 7326.99 7460.73 7326.99 24.63 17.75 65.87 -636.84 -575.64 466.87 427.30 11.80   00.00 7326.99 7660.73 7326.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.30 11.80   00.00 7326.99 7660.73 7326.99 24.63 17.75 65.87 -636.84 -575.64 466.87 427.30 11.80   00.00 7326.99 760.73 7326.99 24.63 17.75 65.87 -636.84 -575.64 466.87 427.30 11.80   00.00 7326.99 760.73 7326.99 24.51 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69   00.00 7326.99 760.73 7326.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69   00.00 7326.99 760.73 7326.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.34 11.55   00.00 7326.99 760.73 7326.99 24.84 18.10 65.87 -636.84 -575.64 466.87 426.92 11.69   00.00 7326.99 760.73 7326.99 24.84 18.10 65.87 -636.84 -575.64 466.87 426.34 11.58   00.00 7326.99 760.73 7326.99 24.91 18.22 65.87 -636.84 -575.64 466.87 426.34 11.50   00.00 7326.99 760.73 7326.99 24.91 18.22 65.87 -636.84 -575.64 466.87 426	6200.00		6060.85		23.98	16.25	195.67	-636.84	-575.64	460.69	433.66	17.04		
00.00 6226.99 6360.73 6226.99 24.02 16.61 65.87 -636.84 -575.64 466.87 428.94 12.31 00.00 6326.99 6560.73 6426.99 24.07 16.70 65.87 -636.84 -575.64 466.87 428.49 12.16 00.00 6526.99 6660.73 6526.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.49 12.16 00.00 6626.99 6760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.49 12.16 00.00 6626.99 6760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.49 12.11 00.00 6726.99 6860.73 6726.99 24.22 17.00 65.87 -636.84 -575.64 466.87 428.16 12.06 00.00 6826.99 6960.73 6826.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.00 12.01 00.00 6926.99 7060.73 6926.99 24.33 17.20 65.87 -636.84 -575.64 466.87 427.83 11.96 00.00 7026.99 7160.73 7026.99 24.39 17.31 65.87 -636.84 -575.64 466.87 427.43 11.85 00.00 7226.99 7260.73 7126.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.48 11.85 00.00 7226.99 7360.73 7226.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.40 11.80 00.00 7226.99 7660.73 7326.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.40 11.80 00.00 7426.99 7560.73 7326.99 24.57 17.64 65.87 -636.84 -575.64 466.87 427.40 11.80 00.00 7426.99 7560.73 7326.99 24.57 17.64 65.87 -636.84 -575.64 466.87 427.11 11.74 00.00 7426.99 7660.73 7326.99 24.57 17.64 65.87 -636.84 -575.64 466.87 427.11 11.74 00.00 7426.99 7660.73 7326.99 24.57 17.64 65.87 -636.84 -575.64 466.87 427.11 11.74 00.00 7426.99 7660.73 7326.99 24.57 17.64 65.87 -636.84 -575.64 466.87 426.91 11.58 00.00 7526.99 7660.73 7526.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.31 11.69 00.00 7526.99 760.73 7626.99 24.77 17.98 65.87 -636.84 -575.64 466.87 426.34 11.58 00.00 7626.99 760.73 7826.99 24.77 17.98 65.87 -636.84 -575.64 466.87 426.34 11.58 00.00 7626.99 760.73 7826.99 24.77 17.98 65.87 -636.84 -575.64 466.87 426.34 11.58 00.00 7626.99 760.73 7626.99 24.77 17.98 65.87 -636.84 -575.64 466.87 426.34 11.58 00.00 7626.99 760.73 7626.99 24.77 17.98 65.87 -636.84 -575.64 466.87 426.34 11.58 00.00 7626.99 760.73 7626.99 24.91 18.22 65.87 -636.84 -575.64 466.87 426.34 11.58 00.00 7626.99 760.73 7626.99 24.91 1	6300.00	6027.01	6160.75	6027.01	24.00	16.34	195.50	-636.84	-575.64	465.01	438.06			
00.00 6326.99 6460.73 6326.99 24.07 16.70 65.87 -636.84 -575.64 466.87 428.79 12.26 00.00 6426.99 6560.73 6426.99 24.17 16.80 65.87 -636.84 -575.64 466.87 428.49 12.16 00.00 6526.99 6760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.33 12.11 10.00.00 6726.99 6860.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.33 12.11 10.00.00 6726.99 6860.73 6826.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.16 12.06 00.00 6826.99 6960.73 6926.99 24.33 17.20 65.87 -636.84 -575.64 466.87 428.00 12.01 00.00 6926.99 7060.73 6926.99 24.33 17.20 65.87 -636.84 -575.64 466.87 427.83 11.96 00.00 7026.99 7160.73 7026.99 24.39 17.31 65.87 -636.84 -575.64 466.87 427.83 11.96 00.00 7226.99 7260.73 7126.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.48 11.85 10.00.00 7226.99 7360.73 7226.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 7326.99 7460.73 7326.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 7326.99 7560.73 7426.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.30 11.80 00.00 7426.99 7560.73 7426.99 24.51 17.53 65.87 -636.84 -575.64 466.87 427.11 11.74 00.00 7426.99 7560.73 7426.99 24.51 17.87 65.87 -636.84 -575.64 466.87 427.11 11.74 00.00 7426.99 7560.73 7426.99 24.51 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7526.99 760.73 7526.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7526.99 760.73 7626.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7526.99 760.73 7626.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.73 11.63 00.00 7526.99 760.73 7626.99 24.71 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7526.99 760.73 7626.99 24.71 17.87 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7526.99 760.73 7626.99 24.71 17.87 65.87 -636.84 -575.64 466.87 426.94 11.58 00.00 7526.99 760.73 7626.99 24.71 17.87 65.87 -636.84 -575.64 466.87 426.93 11.69 00.00 7526.99 760.73 7626.99 24.84 18.10 65.87 -636.84 -575.64 466.87 426.34 11.58 00.00 7626.99 760.73 7626.99 24.84 18.10 65.87 -636.84 -575.64 466.87 426.34 11.40 00.00 7626.99 760.73 7626.99 2	6400.00	6126.99	6260.73	6126.99	23.98	16.42	195.44	-636.84	-575.6 <b>4</b>	466.81	439.93	17.37		
00.00       6326.99       6460.73       6326.99       24.02       16.61       65.87       -636.84       -575.64       466.87       428.79       12.26         00.00       6426.99       6560.73       6426.99       24.07       16.70       65.87       -636.84       -575.64       466.87       428.49       12.16         00.00       6526.99       6660.73       6626.99       24.17       16.89       65.87       -636.84       -575.64       466.87       428.49       12.16         00.00       6626.99       6760.73       6626.99       24.17       16.89       65.87       -636.84       -575.64       466.87       428.49       12.16         00.00       6726.99       6860.73       6726.99       24.22       17.00       65.87       -636.84       -575.64       466.87       428.16       12.06         00.00       6826.99       6860.73       6826.99       24.27       17.10       65.87       -636.84       -575.64       466.87       428.10       12.01         00.00       6926.99       7060.73       6926.99       24.33       17.20       65.87       -636.84       -575.64       466.87       427.83       11.91         00.00       7226.99	6500.00	6226.99	6360.73	6226.99	23.97	16.51	65.87	-636.84	-575.64	466.87	428.94	12.31		
00.00 6526.99 6660.73 6526.99 24.12 16.80 65.87 -636.84 -575.64 466.87 428.49 12.16 00.00 6626.99 6760.73 6626.99 24.17 16.89 65.87 -636.84 -575.64 466.87 428.13 12.11 12.00 100.00 6726.99 6860.73 6826.99 24.22 17.00 65.87 -636.84 -575.64 466.87 428.16 12.06 12.01	6600.00		6460.73	6326.99	24.02	16.61	65.87	-636.84	-575.64			12.26		
00.00       6626.99       6760.73       6626.99       24.17       16.89       65.87       -636.84       -575.64       466.87       428.33       12.11         000.00       6726.99       6860.73       6726.99       24.22       17.00       65.87       -636.84       -575.64       466.87       428.16       12.06         00.00       6826.99       6960.73       6826.99       24.27       17.10       65.87       -636.84       -575.64       466.87       428.00       12.01         00.00       6926.99       7060.73       6926.99       24.33       17.20       65.87       -636.84       -575.64       466.87       427.83       11.96         00.00       7026.99       7160.73       7026.99       24.39       17.31       65.87       -636.84       -575.64       466.87       427.48       11.96         00.00       7126.99       7260.73       7126.99       24.45       17.42       65.87       -636.84       -575.64       466.87       427.48       11.85         00.00       7226.99       7360.73       7226.99       24.51       17.53       65.87       -636.84       -575.64       466.87       427.30       11.80         00.00       7326.99	6700.00	6426.99	6560.73	6426.99	24.07	16.70	65.87	-636.84	-575.64	466.87	428.64	12.21		
00.00 6726.99 6860.73 6726.99 24.22 17.00 65.87 -636.84 -575.64 466.87 428.16 12.06 00.00 6826.99 6960.73 6826.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.00 12.01 00.00 6926.99 7060.73 6926.99 24.33 17.20 65.87 -636.84 -575.64 466.87 427.83 11.96 00.00 7026.99 7160.73 7026.99 24.39 17.31 65.87 -636.84 -575.64 466.87 427.83 11.96 00.00 7126.99 7260.73 7126.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.48 11.85	6800.00	6526.99	6660.73	6526.99	24.12	16.80	65.87	-636.84	-575.64	466.87	428.49	12.16		
00.00 6826.99 6960.73 6826.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.00 12.01 19.00.00 6926.99 7060.73 6926.99 24.33 17.20 65.87 -636.84 -575.64 466.87 427.83 11.96 19.00.00 7026.99 7160.73 7026.99 24.39 17.31 65.87 -636.84 -575.64 466.87 427.65 11.91 19.00.00 7126.99 7260.73 7126.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.48 11.85 11.	6900.00	6626.99	6760.73	6626.99	24.17	16.89	65.87	-636.84	-575.64	466.87	428.33	12.11		
00.00 6826.99 6960.73 6826.99 24.27 17.10 65.87 -636.84 -575.64 466.87 428.00 12.01 19.00.00 6926.99 7060.73 6926.99 24.33 17.20 65.87 -636.84 -575.64 466.87 427.83 11.96 19.00.00 7026.99 7160.73 7026.99 24.39 17.31 65.87 -636.84 -575.64 466.87 427.65 11.91 19.00.00 7126.99 7260.73 7126.99 24.45 17.42 65.87 -636.84 -575.64 466.87 427.48 11.85 11.	7000.00	6726.99	6860.73	6726.99	24.22	17.00	65.87	-636.84	-575.64	466.87	428.16	12.06		
00.00       6926.99       7060.73       6926.99       24.33       17.20       65.87       -636.84       -575.64       466.87       427.83       11.96         00.00       7026.99       7160.73       7026.99       24.39       17.31       65.87       -636.84       -575.64       466.87       427.48       11.91         00.00       7126.99       7260.73       7126.99       24.45       17.42       65.87       -636.84       -575.64       466.87       427.48       11.85         00.00       7226.99       7360.73       7226.99       24.51       17.53       65.87       -636.84       -575.64       466.87       427.30       11.80         00.00       7326.99       7460.73       7326.99       24.57       17.64       65.87       -636.84       -575.64       466.87       427.11       11.74         00.00       7426.99       7560.73       7426.99       24.63       17.75       65.87       -636.84       -575.64       466.87       426.92       11.69         00.00       7526.99       7660.73       7526.99       24.77       17.98       65.87       -636.84       -575.64       466.87       426.54       11.58         00.00       7626.99	7100.00									466.87	428.00			
00.00       7026.99       7160.73       7026.99       24.39       17.31       65.87       -636.84       -575.64       466.87       427.65       11.91         00.00       7126.99       7260.73       7126.99       24.45       17.42       65.87       -636.84       -575.64       466.87       427.48       11.85         00.00       7226.99       7360.73       7226.99       24.51       17.53       65.87       -636.84       -575.64       466.87       427.30       11.80         00.00       7326.99       7460.73       7326.99       24.57       17.64       65.87       -636.84       -575.64       466.87       427.11       11.74         00.00       7426.99       7560.73       7426.99       24.63       17.75       65.87       -636.84       -575.64       466.87       426.92       11.69         00.00       7526.99       7660.73       7526.99       24.70       17.87       65.87       -636.84       -575.64       466.87       426.73       11.63         00.00       7626.99       7760.73       7626.99       24.77       17.98       65.87       -636.84       -575.64       466.87       426.54       11.58         00.00       7726.99	7200.00											11.96		
00.00       7126.99       7260.73       7126.99       24.45       17.42       65.87       -636.84       -575.64       466.87       427.48       11.85         00.00       7226.99       7360.73       7226.99       24.51       17.53       65.87       -636.84       -575.64       466.87       427.30       11.80         00.00       7326.99       7460.73       7326.99       24.57       17.64       65.87       -636.84       -575.64       466.87       427.11       11.74         00.00       7426.99       7560.73       7426.99       24.63       17.75       65.87       -636.84       -575.64       466.87       426.92       11.69         00.00       7526.99       7660.73       7526.99       24.70       17.87       65.87       -636.84       -575.64       466.87       426.73       11.63         00.00       7626.99       7760.73       7626.99       24.77       17.98       65.87       -636.84       -575.64       466.87       426.54       11.58         00.00       7726.99       7860.73       7726.99       24.84       18.10       65.87       -636.84       -575.64       466.87       426.34       11.52         00.00       7826.99	7300.00						65.87	-636.84	-575.64	466.87	427.65			
00.00       7326.99       7460.73       7326.99       24.57       17.64       65.87       -636.84       -575.64       466.87       427.11       11.74         00.00       7426.99       7560.73       7426.99       24.63       17.75       65.87       -636.84       -575.64       466.87       426.92       11.69         00.00       7526.99       7660.73       7526.99       24.70       17.87       65.87       -636.84       -575.64       466.87       426.73       11.63         00.00       7626.99       760.73       7626.99       24.77       17.98       65.87       -636.84       -575.64       466.87       426.54       11.58         00.00       7726.99       7860.73       7726.99       24.84       18.10       65.87       -636.84       -575.64       466.87       426.34       11.52         00.00       7826.99       7960.73       7826.99       24.91       18.22       65.87       -636.84       -575.64       466.87       426.14       11.46         00.00       7926.99       8060.73       7926.99       24.98       18.35       65.87       -636.84       -575.64       466.87       425.93       11.40	7400.00	7126.99	7260.73	7126.99	24.45	17.42	65.87	-636.84	-575.64	466.87	427.48	11.85		
00.00       7326.99       7460.73       7326.99       24.57       17.64       65.87       -636.84       -575.64       466.87       427.11       11.74         00.00       7426.99       7560.73       7426.99       24.63       17.75       65.87       -636.84       -575.64       466.87       426.92       11.69         00.00       7526.99       7660.73       7526.99       24.70       17.87       65.87       -636.84       -575.64       466.87       426.73       11.63         00.00       7626.99       760.73       7626.99       24.77       17.98       65.87       -636.84       -575.64       466.87       426.54       11.58         00.00       7726.99       7860.73       7726.99       24.84       18.10       65.87       -636.84       -575.64       466.87       426.34       11.52         00.00       7826.99       7960.73       7826.99       24.91       18.22       65.87       -636.84       -575.64       466.87       426.14       11.46         00.00       7926.99       8060.73       7926.99       24.98       18.35       65.87       -636.84       -575.64       466.87       425.93       11.40	7500.00	7226.99	7360.73	7226.99	24.51	17.53	65.87	-636.84	-575.64	466.87	427.30	11.80		
00.00 7426.99 7560.73 7426.99 24.63 17.75 65.87 -636.84 -575.64 466.87 426.92 11.69 00.00 7526.99 7660.73 7526.99 24.70 17.87 65.87 -636.84 -575.64 466.87 426.73 11.63 00.00 7626.99 7760.73 7626.99 24.77 17.98 65.87 -636.84 -575.64 466.87 426.54 11.58 00.00 7726.99 7860.73 7726.99 24.84 18.10 65.87 -636.84 -575.64 466.87 426.34 11.52 00.00 7826.99 7960.73 7826.99 24.91 18.22 65.87 -636.84 -575.64 466.87 426.14 11.46 00.00 7926.99 8060.73 7926.99 24.98 18.35 65.87 -636.84 -575.64 466.87 425.93 11.40	7600.00													
00.00       7526.99       7660.73       7526.99       24.70       17.87       65.87       -636.84       -575.64       466.87       426.73       11.63         00.00       7626.99       7760.73       7626.99       24.77       17.98       65.87       -636.84       -575.64       466.87       426.54       11.58         000.00       7726.99       7860.73       7726.99       24.84       18.10       65.87       -636.84       -575.64       466.87       426.34       11.52         00.00       7826.99       7960.73       7826.99       24.91       18.22       65.87       -636.84       -575.64       466.87       426.14       11.46         00.00       7926.99       8060.73       7926.99       24.98       18.35       65.87       -636.84       -575.64       466.87       425.93       11.40	7700.00									466.87	426.92	11.69		
00.00 7626.99 7760.73 7626.99 24.77 17.98 65.87 -636.84 -575.64 466.87 426.54 11.58 00.00 7726.99 7860.73 7726.99 24.84 18.10 65.87 -636.84 -575.64 466.87 426.34 11.52 00.00 7826.99 7960.73 7826.99 24.91 18.22 65.87 -636.84 -575.64 466.87 426.14 11.46 00.00 7926.99 8060.73 7926.99 24.98 18.35 65.87 -636.84 -575.64 466.87 425.93 11.40	7800.00			7526.99			65.87	-636.84	-575.64					
00.00 7826.99 7960.73 7826.99 24.91 18.22 65.87 -636.84 -575.64 466.87 426.14 11.46 00.00 7926.99 8060.73 7926.99 24.98 18.35 65.87 -636.84 -575.64 466.87 425.93 11.40	7900.00								-575.64	466.87	426.54	11.58		
00.00 7826.99 7960.73 7826.99 24.91 18.22 65.87 -636.84 -575.64 466.87 426.14 11.46 00.00 7926.99 8060.73 7926.99 24.98 18.35 65.87 -636.84 -575.64 466.87 425.93 11.40	8000.00	7726.99	7860.73	7726.99	24.84	18.10	65.87	-636.84	-575.64	466.87	426.34	11.52		
00.00 7926.99 8060.73 7926.99 24.98 18.35 65.87 -636.84 -575.64 466.87 425.93 11.40	8100.00													
	8200.00									466.87	425.93	11.40		
00.00 8026.99 8160.73 8026.99 25.05 18.47 65.87 -636.84 -575.64 466.87 425.72 11.35	8300.00	8026.99	8160.73	8026.99	25.05	18.47	65.87	-636.84	-575.64	466.87	425.72	11.35		

65.87 -636.84 -575.64

65.87 -636.84 -575.64

25.13

25.20

18.59

18.70

8126.99

466.87 425.51

466.98 425.43

11.29

11.24

## Weatherford Drilling Services





Company: Field:

Reference Well:

Reference Wellpath: 1

Anadarko-Kerr-McGee Date UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27) Date: 7/12/2007

Time: 16:03:42

Reference Site:

NBU 1022-13M2CS

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

Site: NBU 1022-13M2CS, Grid North SITE 5302.0

Db: Sybase

Site:

NBU 1022-13N1S

13M2CS

Well: 13N1S
Wellpath: 1 V0 Plan: Plan #2 V1

Inter-Site Error:

0.00

ft

	IVUFIAII	: Plan #2 V	1						Inter-Site	e Error:	0.00	ft
Refe	rence		fset		ajor Axis						Separation	
MD	TVD	MD	TVD	Ref		TFO-HS		East	Distance		Factor	Warning
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
0.00	0.00	0.00	0.00	0.00	0.00	41.61	14.30	12.70	19.13			No Data
100.00	100.00	100.00	100.00	0.09	0.09	41.61	14.30	12.70	19.13	18.95	107.43	
200.00	200.00	200.00	200.00	0.30	0.30	41.61	14.30	12.70	19.13	18.53	32.04	
300.00	300.00	300.00	300.00	0.51	0.51	41.61	14.30	12.70	19.13	18.11	18.83	
400.00	400.00	400.00	400.00	0.72	0.72	41.61	14.30	12.70	19.13	17.69	13.33	
500.00	500.00	500.00	500.00	0.93	0.93	41.61	14.30	12.70	19.13	17.27	10.32	
600.00	600.00	600.00	600.00	1.14	1.14	41.61	14.30	12.70	19.13	16.85	8.42	
700.00	700.00	700.00	700.00	1.35	1.35	41.61	14.30	12.70	19.13	16.43	7.11	
800.00	800.00	800.00	800.00	1.56	1.56	41.61	14.30	12.70	19.13	16.02	6.15	
900.00	900.00	900.00	900.00	1.76	1.76	41.61	14.30	12.70	19.13	15.60	5.42	
					4.0=	44.04	4400	40.70	40.40	45.40	4.04	
1000.00	1000.00	1000.00	1000.00	1.97	1.97	41.61	14.30	12.70	19.13	15.18	4.84	
1100.00	1100.00	1100.00	1100.00	2.18	2.18	41.61	14.30	12.70	19.13	14.76	4.38	
1200.00	1200.00	1200.00	1200.00	2.39	2.39	41.61	14.30	12.70	19.13	14.34	4.00	
1300.00	1300.00	1300.00	1300.00	2.60	2.60	41.61	14.30	12.70	19.13	13.92	3.67 3.40	
1400.00	1400.00	1400.00	1400.00	2.81	2.81	41.61	14.30	12.70	19.13	13.50	3.40	
1500.00	1500.00	1500.00	1500.00	3.02	3.02	41.61	14.30	12.70	19.13	13.08	3.17	
1500.00 1600.00	1500.00 1600.00	1600.00	1600.00	3.23	3.02	41.61	14.30	12.70	19.13	12.66	2.96	
1700.00	1700.00	1700.00	1700.00	3.23 3.44	3.44	41.61	14.30	12.70	19.13	12.25	2.78	
1800.00	1800.00	1800.00	1800.00	3. <del>44</del> 3.65	3.65	41.61	14.30	12.70	19.13	11.83	2.62	
1900.00	1900.00	1900.00	1900.00	3.86	3.86	41.61	14.30	12.70	19.13	11.41	2.48	
1900.00	1000.00	1300.00	1000.00	5.00	5.00						_,	
2000.00	2000.00	2000.00	2000.00	4.07	4.07	41.61	14.30	12.70	19.13	10.99	2.35	
2100.00	2100.00	2100.00	2100.00	4.28	4.28	41.61	14.30	12.70	19.13	10.57	2.24	
2200.00	2200.00	2200.04	2200.04	4.49	4.49	42.65	14.03	12.93	19.08	10.11	2.13	
2300.00	2300.00	2299.98	2299.89	4.70		183.97	11.06	15.48	19.37	9.98	2.06	
2400.00	2399.91	2399.30	2398.87	4.91		202.29	4.82	20.82	25.29	15.48	2.58	
				-								
2500.00	2499.56	2497.45	2496.23	5.12		214.87	-4.53	28.84	38.81	28.59	3.80	
2600.00	2598.75	2593.90	2591.32	5.35	5.37	221.33	-16.79	39.35	59.23	48.59	5.57	
2700.00	2697.30	2688.18	2683.52	5.59		224.67	-31.71	52.13	85.85	74.76	7.74	
2800.00	2795.02	2779.85	2772.32	5.86		226.56	-48.96	66.92	118.25		10.23	
2900.00	2891.71	2868.56	2857.33	6.18	6.24	227.78	-68.21	83.41	156.13	144.04	12.91	
									40	400	, , ,	
3000.00	2987.21	2954.01	2938.22	6.55	6.59	228.71	-89.09	101.31	199.21		15.70	
3100.00	3081.32	3035.96	3014.79	6.98			-111.27	120.31	247.21		18.50	
3200.00	3173.87	3114.25	3086.91	7.48		230.28		140.12	299.84		21.22	
3300.00	3264.67	3188.75	3154.55	8.07		231.09		160.45	356.82		23.89	
3400.00	3353.57	3259.42	3217.74	8.74	8.32	231.98	-182.12	181.04	417.86	401.94	26.25	
	0445.55	0000 07	0070 0=	0.50	0.00	222.00	206.22	201.71	402 54	AGE EA	28.44	
3500.00	3440.56	3326.37	3276.67	9.50	8.80	232.30	-200.23	201.71	482.51 548.89		28.44 30.36	
3600.00	3527.16	3395.99	3337.08	10.30	9.35	231.86	-232.5U	224.22	615.49		31.82	
3700.00	3613.76	3470.54	3401.64	11.13	9.96	231.50	-∠ნ∪.ԾՍ	248.48	682.10		33.06	
3800.00	3700.36	3545.09	3466.21	11.99		231.22		272.73 296.99	748.71		33.06 34.11	
3900.00	3786.97	3619.64	3530.77	12.87	11.24	230.99	-317.41	290.99	140.1 l	120.70	J <del>4</del> .11	
4000 00	2072 57	3604.10	3505 33	13.76	11 20	230.79	-345 71	321.25	815.33	792 12	35.12	
4000.00	3873.57	3694.19 3768.74	3595.33 3659.89	14.66		230.79		345.50	881.96		35.88	
4100.00 4200.00	3960.17 4046.77	3843.29	3724.46	15.58		230.48		369.76	948.58		36.55	
4300.00	4133.38	3923.74	3794.20	16.50		230.34		395.86	1015.14		37.19	
4400.00	4219.98	4016.41	3875.40	17.43	14.35	230.11	-466.68	424.92	1080.72		37.93	
4400.00	12 10.00	1010.71	55. 5. 15									
4500.00	4306.98	4112.07	3960.32	18.21	14.86	229.11	-500.11	453.57	1144.65	1115.17	38.84	
4600.00	4395.22	4211.70	4049.91	18.74		228.03		481.92	1205.93		39.92	
4700.00	4484.65	4315.33	4144.28	19.27		227.08		509.80	1264.38	1233.44	40.87	
4800.00	4575.23	4422.95	4243.46	19.79		226.22		536.96	1319.84	1288.19	41.70	
4900.00	4666.89	4534.48	4347.45	20.29		225.45		563.19	1372.16	1339.83	42.44	
4900.00			•									
4900.00						224.75		588.23	1421.19		43.10	

## Weatherford Drilling Services **Anticollision Report**



Company: Field:

Date: 7/12/2007

Time: 16:03:42

Page:

Reference Site: Reference Well:

Anadarko-Kerr-McGee Date UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27) NBU 1022-13M2CS 13M2CS

Co-ordinate(NE) Reference: Vertical (TVD) Reference:

Site: NBU 1022-13M2CS, Grid North SITE 5302.0

Db: Sybase

Reference Wellpath: 1 NBU 1022-13N1S Site: Well:

13N1S

T. 4. . C'4. E.... 0.00

Reference	Wellpath:	1 V0 Plan	n: Plan #2 V	/1						Inter-Site	Error:	0.00	ft
R         ft         ft </th <th>Refe</th> <th>rence</th> <th>Of</th> <th>fset</th> <th>Semi-M</th> <th>lajor Axis</th> <th>,</th> <th>Offset</th> <th>Location</th> <th></th> <th></th> <th></th> <th></th>	Refe	rence	Of	fset	Semi-M	lajor Axis	,	Offset	Location				
\$100.00	MD	TVD	MD	TVD	Ref	Offset	TFO-H	S North				Factor	Warning
5200.00	ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
\$\begin{array}{c c c c c c c c c c c c c c c c c c c	5100.00	4853.18	4768.91	4569.61	21.22	18.02	224.10	-684.75	611.82	1466.77 1	433.20		
\$\begin{array}{c c c c c c c c c c c c c c c c c c c	5200.00	4947.69	4891.49	4687.50	21.64	18.48	223.50	-710.27	633.69	1508.77 1	474.65		
5500.00         5235.89         5278.02         5065.28         22.72         19.56         221.90         -771.73         686.36         1611.95 1576.58         45.57           5600.00         5333.30         5412.12         5198.00         23.02         19.81         221.42         -786.24         698.79         1638.35 1602.72         45.98           5700.00         5431.27         5548.23         5333.33         23.27         19.97         220.94         -797.33         708.30         1660.60 1624.80         46.39           5800.00         5629.72         5686.96         5470.69         23.49         20.07         220.47         704.82         714.72         1678.62 1642.74         46.78           5900.00         5628.60         5824.84         5609.48         23.67         20.09         220.01         -808.56         717.93         1692.36 1656.49         47.18           6000.00         527.716         614.248         5927.11         23.98         20.18         219.13         -809.00         718.30         1702.11 1662.30         42.75           6100.00         5626.99         6342.35         6126.99         23.98         20.28         218.95         -809.00         718.30         1702.11 1662.30         42.75 <td>5300.00</td> <td>5043.02</td> <td>5017.39</td> <td>4809.62</td> <td>22.03</td> <td>18.90</td> <td>222.94</td> <td>-733.47</td> <td>653.57</td> <td>1547.05 1</td> <td>512.43</td> <td>44.68</td> <td></td>	5300.00	5043.02	5017.39	4809.62	22.03	18.90	222.94	-733.47	653.57	1547.05 1	512.43	44.68	
5600.00         5333.30         5412.12         5198.00         23.02         19.81         221.42         -786.24         698.79         1638.35 1602.72         45.98           5700.00         5431.27         5548.23         5333.33         23.27         19.77         220.94         -797.33         708.30         1660.80 1624.80         46.39           5800.00         5628.60         5824.84         5609.48         23.67         20.09         220.01         -808.56         717.93         1692.36 1656.49         47.18           6000.00         5727.84         5943.21         5727.84         23.81         20.10         219.61         -809.00         718.30         1709.62 1669.81         42.95           6000.00         5927.11         6142.48         5927.31         23.91         20.14         219.33         809.00         718.30         1709.62 1669.81         42.95           6200.00         5927.11         6142.37         6027.01         24.00         20.23         219.00         -809.00         718.30         1715.12 1675.33         43.11           6300.00         6126.99         6342.35         6126.99         23.97         20.33         89.38         -809.00         718.30         1720.01 1673.19         36.67 <td>5400.00</td> <td>5139.11</td> <td>5146.33</td> <td>4935.67</td> <td>22.40</td> <td>19.26</td> <td>222.41</td> <td>-754.06</td> <td>671.21</td> <td>1581.48 1</td> <td>546.45</td> <td>45.14</td> <td></td>	5400.00	5139.11	5146.33	4935.67	22.40	19.26	222.41	-754.06	671.21	1581.48 1	546.45	45.14	
5600.00         5333.30         5412.12         5198.00         23.02         19.81         221.42         -786.24         698.79         1638.35 1602.72         45.98           5700.00         5431.27         5548.23         5333.33         23.27         19.79         220.94         -797.33         708.30         1636.26 1642.74         46.78           5800.00         5628.60         5824.84         5609.48         23.67         20.09         220.01         -808.56         717.93         1692.36 1656.49         47.18           6000.00         5727.84         5943.21         5727.84         23.81         20.10         219.61         -809.00         718.30         1709.62 1669.81         42.95           6200.00         5927.11         6142.48         5927.11         23.98         20.18         219.31         -809.00         718.30         1709.62 1669.81         42.95           6200.00         6927.01         642.43         6027.01         24.00         20.23         219.00         -809.00         718.30         1715.12 1675.33         43.11           6300.00         6226.99         6442.35         6226.99         23.97         20.33         89.38         -809.00         718.30         1720.01 673.93         36.67	5500.00	5225 90	5278 N2	5065 28	22.72	19.56	221 90	-771 73	686.36	1611 95 1	576 58	45 57	
5700.00         5431.27         5548.23         5333.33         23.27         19.97         220.94         -797.33         708.30         1660.60 1624.80         46.39           5800.00         5529.72         5685.96         5470.69         23.49         20.07         220.47         -804.82         714.72         1678.62 1642.74         46.78           5900.00         5628.60         5682.68         5609.48         23.67         20.09         220.01         -808.56         717.93         1692.36 1656.49         47.18           6000.00         5727.84         5943.21         5727.84         23.81         20.10         219.61         -809.00         718.30         1709.62 1669.81         42.95           6200.00         5927.11         6142.48         5927.11         23.98         20.18         219.13         -809.00         718.30         1715.12 1675.33         43.11           6300.00         6026.99         6342.35         6126.99         23.98         20.28         218.95         -809.00         718.30         1715.12 1675.33         43.11           6500.00         6226.99         6442.35         6226.99         23.97         20.33         89.38         -809.00         718.30         1720.10 1673.19         36.67 <td></td>													
\$800.00         5529.72         5685.96         5470.69         23.49         20.07         220.47         804.82         714.72         1678.62 1642.74         46.78           \$900.00         5628.60         5824.84         5609.48         23.67         20.09         220.01         -808.65         717.93         1692.36 1666.49         47.18           6000.00         5827.84         5943.21         5727.84         23.81         20.10         219.61         -809.00         718.30         1702.11 1662.30         42.75           6200.00         5927.11         6142.48         5927.11         23.98         20.18         219.13         -809.00         718.30         1709.62 1669.81         42.95           6200.00         5027.01         6242.37         6027.01         24.00         20.23         219.00         -809.00         718.30         1715.12 1675.33         43.11           6300.00         6126.99         6342.35         6026.99         23.98         20.28         218.95         -809.00         718.30         1720.10 1673.19         36.67           6600.00         6326.99         6442.35         6326.99         24.07         20.43         89.38         -809.00         718.30         1720.10 1673.19         36.59 <td></td>													
5900.00         5628.60         5824.84         5609.48         23.67         20.09         220.01         -808.56         717.93         1692.36         1656.49         47.18           6000.00         5727.84         5943.21         5727.84         23.81         20.10         219.61         -809.00         718.30         1702.11         1662.30         42.75           6000.00         5827.36         6042.73         5827.36         23.91         20.14         219.33         -809.00         718.30         1709.62         1669.81         42.95           6200.00         5927.11         6142.48         5927.11         24.00         20.23         219.00         -809.00         718.30         1715.12         1678.35         43.23           6400.00         6126.99         6342.35         6126.99         23.98         20.28         218.95         -809.00         718.30         1720.06         1680.33         43.30           6500.00         6226.99         6442.35         6226.99         23.97         20.33         89.38         -809.00         718.30         1720.10         1673.19         36.67           6800.00         6326.99         6742.35         6326.99         24.07         20.43         89.38													
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6700.00 6426.99 6642.35 6426.99 24.07 20.43 89.38 -809.00 718.30 1720.10 1672.99 36.51 6800.00 6526.99 6742.35 6526.99 24.12 20.49 89.38 -809.00 718.30 1720.10 1672.89 36.43 6900.00 6626.99 6842.35 6626.99 24.17 20.55 89.38 -809.00 718.30 1720.10 1672.78 36.35 7000.00 6726.99 7042.35 6826.99 24.27 20.67 89.38 -809.00 718.30 1720.10 1672.66 36.26 7100.00 6826.99 7042.35 6826.99 24.27 20.67 89.38 -809.00 718.30 1720.10 1672.55 36.17 7200.00 6926.99 7142.35 6926.99 24.33 20.74 89.38 -809.00 718.30 1720.10 1672.43 36.08 7300.00 7026.99 7242.35 7026.99 24.39 20.80 89.38 -809.00 718.30 1720.10 1672.30 35.99 7400.00 7126.99 7342.35 7126.99 24.45 20.87 89.38 -809.00 718.30 1720.10 1672.18 35.89 7500.00 7226.99 7442.35 7226.99 24.51 20.94 89.38 -809.00 718.30 1720.10 1672.05 35.79 7600.00 7326.99 7542.35 7326.99 24.57 21.01 89.38 -809.00 718.30 1720.10 1672.05 35.69 7700.00 7426.99 7642.35 7426.99 24.67 21.01 89.38 -809.00 718.30 1720.10 1671.91 35.69 7800.00 7526.99 7742.35 7526.99 24.70 21.16 89.38 -809.00 718.30 1720.10 1671.77 35.59 7800.00 7526.99 7842.35 7626.99 24.70 21.16 89.38 -809.00 718.30 1720.10 1671.67 35.49 7900.00 7626.99 7842.35 7626.99 24.77 21.24 89.38 -809.00 718.30 1720.10 1671.49 35.38 8000.00 7726.99 7842.35 7826.99 24.77 21.24 89.38 -809.00 718.30 1720.10 1671.19 35.38 8000.00 7826.99 7842.35 7826.99 24.77 21.24 89.38 -809.00 718.30 1720.10 1671.19 35.17 8200.00 7826.99 8042.35 7826.99 24.91 21.40 89.38 -809.00 718.30 1720.10 1671.03 35.06 8300.00 8026.99 8242.35 8026.99 25.05 21.57 89.38 -809.00 718.30 1720.10 1670.88 34.94	6500.00	6226.99	6442.35	6226.99	23.97	20.33	89.38	-809.00	718.30	1720.10 1	673.19		
6800.00 6526.99 6742.35 6526.99 24.12 20.49 89.38 -809.00 718.30 1720.10 1672.89 36.43 6900.00 6626.99 6842.35 6626.99 24.17 20.55 89.38 -809.00 718.30 1720.10 1672.78 36.35 7000.00 6726.99 6942.35 6726.99 24.22 20.61 89.38 -809.00 718.30 1720.10 1672.66 36.26 7100.00 6826.99 7042.35 6826.99 24.27 20.67 89.38 -809.00 718.30 1720.10 1672.55 36.17 7200.00 6926.99 7142.35 6926.99 24.33 20.74 89.38 -809.00 718.30 1720.10 1672.43 36.08 7300.00 7026.99 7242.35 7026.99 24.39 20.80 89.38 -809.00 718.30 1720.10 1672.30 35.99 7400.00 7126.99 7342.35 7126.99 24.45 20.87 89.38 -809.00 718.30 1720.10 1672.18 35.89 7500.00 7226.99 7442.35 7226.99 24.51 20.94 89.38 -809.00 718.30 1720.10 1672.05 35.79 7600.00 7226.99 7642.35 7326.99 24.57 21.01 89.38 -809.00 718.30 1720.10 1671.91 35.69 7700.00 7426.99 7642.35 7426.99 24.63 21.09 89.38 -809.00 718.30 1720.10 1671.91 35.69 7800.00 7526.99 742.35 7526.99 24.70 21.16 89.38 -809.00 718.30 1720.10 1671.63 35.49 7900.00 7626.99 7842.35 7626.99 24.77 21.24 89.38 -809.00 718.30 1720.10 1671.49 35.38 8000.00 7726.99 7942.35 7826.99 24.77 21.24 89.38 -809.00 718.30 1720.10 1671.49 35.38 8000.00 7826.99 8042.35 7826.99 24.91 21.40 89.38 -809.00 718.30 1720.10 1671.34 35.28 8000.00 7826.99 8042.35 7826.99 24.91 21.40 89.38 -809.00 718.30 1720.10 1671.19 35.17 8200.00 7926.99 8142.35 7926.99 24.98 21.48 89.38 -809.00 718.30 1720.10 1671.03 35.06 8300.00 8026.99 8242.35 8026.99 25.05 21.57 89.38 -809.00 718.30 1720.10 1671.03 35.06 8300.00 8026.99 8242.35 8026.99 25.05 21.57 89.38 -809.00 718.30 1720.10 1670.88 34.94	6600.00	6326.99	6542.35	6326.99	24.02	20.38	89.38	-809.00	718.30	1720.10 1	673.09	36.59	
6900.00 6626.99 6842.35 6626.99 24.17 20.55 89.38 -809.00 718.30 1720.10 1672.78 36.35  7000.00 6726.99 6942.35 6726.99 24.22 20.61 89.38 -809.00 718.30 1720.10 1672.66 36.26  7100.00 6826.99 7042.35 6826.99 24.27 20.67 89.38 -809.00 718.30 1720.10 1672.55 36.17  7200.00 6926.99 7142.35 6926.99 24.33 20.74 89.38 -809.00 718.30 1720.10 1672.43 36.08  7300.00 7026.99 7242.35 7026.99 24.39 20.80 89.38 -809.00 718.30 1720.10 1672.30 35.99  7400.00 7126.99 7342.35 7126.99 24.45 20.87 89.38 -809.00 718.30 1720.10 1672.18 35.89  7500.00 7226.99 7442.35 7226.99 24.51 20.94 89.38 -809.00 718.30 1720.10 1672.05 35.79  7600.00 7326.99 7542.35 7326.99 24.51 20.94 89.38 -809.00 718.30 1720.10 1672.05 35.79  7600.00 7426.99 7642.35 7426.99 24.63 21.09 89.38 -809.00 718.30 1720.10 1671.91 35.69  7700.00 7426.99 7642.35 7426.99 24.63 21.09 89.38 -809.00 718.30 1720.10 1671.77 35.59  7800.00 7526.99 7742.35 7526.99 24.70 21.16 89.38 -809.00 718.30 1720.10 1671.63 35.49  7900.00 7626.99 7842.35 7626.99 24.77 21.24 89.38 -809.00 718.30 1720.10 1671.49 35.38  8000.00 7726.99 7842.35 7726.99 24.84 21.32 89.38 -809.00 718.30 1720.10 1671.34 35.28  8100.00 7826.99 8042.35 7826.99 24.91 21.40 89.38 -809.00 718.30 1720.10 1671.19 35.17  8200.00 7926.99 8142.35 7926.99 24.98 21.48 89.38 -809.00 718.30 1720.10 1671.03 35.06  8300.00 8026.99 8242.35 8026.99 25.05 21.57 89.38 -809.00 718.30 1720.10 1670.08 34.94		6426.99	6642.35	6426.99	24.07	20.43	89.38	-809.00	718.30	1720.10 1	672.99	36.51	
7000.00         6726.99         6942.35         6726.99         24.22         20.61         89.38         -809.00         718.30         1720.10 1672.66         36.26           7100.00         6826.99         7042.35         6826.99         24.27         20.67         89.38         -809.00         718.30         1720.10 1672.55         36.17           7200.00         6926.99         7142.35         6926.99         24.33         20.74         89.38         -809.00         718.30         1720.10 1672.43         36.08           7300.00         7026.99         7242.35         7026.99         24.39         20.80         89.38         -809.00         718.30         1720.10 1672.30         35.99           7400.00         7126.99         7342.35         7126.99         24.45         20.87         89.38         -809.00         718.30         1720.10 1672.18         35.89           7500.00         7226.99         7442.35         7226.99         24.51         20.94         89.38         -809.00         718.30         1720.10 1672.05         35.79           7600.00         7326.99         7542.35         7326.99         24.63         21.09         89.38         -809.00         718.30         1720.10 1671.91         35.69	6800.00	6526.99	6742.35	6526.99	24.12	20.49	89.38	-809.00	718.30	1720.10 1	672.89	36.43	
7100.00 6826.99 7042.35 6826.99 24.27 20.67 89.38 -809.00 718.30 1720.10 1672.55 36.17 7200.00 6926.99 7142.35 6926.99 24.33 20.74 89.38 -809.00 718.30 1720.10 1672.43 36.08 7300.00 7026.99 7242.35 7026.99 24.39 20.80 89.38 -809.00 718.30 1720.10 1672.30 35.99 7400.00 7126.99 7342.35 7126.99 24.45 20.87 89.38 -809.00 718.30 1720.10 1672.18 35.89 7500.00 7226.99 7442.35 7226.99 24.51 20.94 89.38 -809.00 718.30 1720.10 1672.05 35.79 7600.00 7326.99 7542.35 7326.99 24.57 21.01 89.38 -809.00 718.30 1720.10 1672.05 35.69 7700.00 7426.99 7642.35 7426.99 24.63 21.09 89.38 -809.00 718.30 1720.10 1671.91 35.69 7800.00 7526.99 7742.35 7526.99 24.70 21.16 89.38 -809.00 718.30 1720.10 1671.63 35.49 7900.00 7626.99 7842.35 7626.99 24.77 21.24 89.38 -809.00 718.30 1720.10 1671.49 35.38 8000.00 7726.99 7942.35 7726.99 24.84 21.32 89.38 -809.00 718.30 1720.10 1671.34 35.28 8100.00 7826.99 8042.35 7826.99 24.91 21.40 89.38 -809.00 718.30 1720.10 1671.19 35.17 8200.00 7926.99 8142.35 7926.99 24.98 21.48 89.38 -809.00 718.30 1720.10 1671.03 35.06 8300.00 8026.99 8242.35 8026.99 25.05 21.57 89.38 -809.00 718.30 1720.10 1671.03 34.94	6900.00	6626.99	6842.35	6626.99	24.17	20.55	89.38	-809.00	718.30	1720.10 1	672.78	36.35	
7100.00 6826.99 7042.35 6826.99 24.27 20.67 89.38 -809.00 718.30 1720.10 1672.55 36.17 7200.00 6926.99 7142.35 6926.99 24.33 20.74 89.38 -809.00 718.30 1720.10 1672.43 36.08 7300.00 7026.99 7242.35 7026.99 24.39 20.80 89.38 -809.00 718.30 1720.10 1672.30 35.99 7400.00 7126.99 7342.35 7126.99 24.45 20.87 89.38 -809.00 718.30 1720.10 1672.18 35.89 7500.00 7226.99 7442.35 7226.99 24.51 20.94 89.38 -809.00 718.30 1720.10 1672.05 35.79 7600.00 7326.99 7542.35 7326.99 24.57 21.01 89.38 -809.00 718.30 1720.10 1672.05 35.69 7700.00 7426.99 7642.35 7426.99 24.63 21.09 89.38 -809.00 718.30 1720.10 1671.91 35.69 7800.00 7526.99 7742.35 7526.99 24.70 21.16 89.38 -809.00 718.30 1720.10 1671.63 35.49 7900.00 7626.99 7842.35 7626.99 24.77 21.24 89.38 -809.00 718.30 1720.10 1671.49 35.38 8000.00 7726.99 7942.35 7726.99 24.84 21.32 89.38 -809.00 718.30 1720.10 1671.34 35.28 8100.00 7826.99 8042.35 7826.99 24.91 21.40 89.38 -809.00 718.30 1720.10 1671.19 35.17 8200.00 7926.99 8142.35 7926.99 24.98 21.48 89.38 -809.00 718.30 1720.10 1671.03 35.06 8300.00 8026.99 8242.35 8026.99 25.05 21.57 89.38 -809.00 718.30 1720.10 1671.03 34.94	7000.00	6726 00	6042 35	6726 99	24 22	20.61	89.38	-809.00	718 30	1720.10.1	672.66	36.26	
7200.00       6926.99       7142.35       6926.99       24.33       20.74       89.38       -809.00       718.30       1720.10 1672.43       36.08         7300.00       7026.99       7242.35       7026.99       24.39       20.80       89.38       -809.00       718.30       1720.10 1672.30       35.99         7400.00       7126.99       7342.35       7126.99       24.45       20.87       89.38       -809.00       718.30       1720.10 1672.05       35.89         7500.00       7226.99       7442.35       7226.99       24.51       20.94       89.38       -809.00       718.30       1720.10 1672.05       35.79         7600.00       7326.99       7542.35       7326.99       24.57       21.01       89.38       -809.00       718.30       1720.10 1671.91       35.69         7700.00       7426.99       7642.35       7426.99       24.63       21.09       89.38       -809.00       718.30       1720.10 1671.77       35.59         7800.00       7526.99       7742.35       7526.99       24.70       21.16       89.38       -809.00       718.30       1720.10 1671.63       35.49         7900.00       7626.99       7842.35       7626.99       24.77       21.24													
7300.00         7026.99         7242.35         7026.99         24.39         20.80         89.38         -809.00         718.30         1720.10 1672.30         35.99           7400.00         7126.99         7342.35         7126.99         24.45         20.87         89.38         -809.00         718.30         1720.10 1672.18         35.89           7500.00         7226.99         7442.35         7226.99         24.51         20.94         89.38         -809.00         718.30         1720.10 1672.05         35.79           7600.00         7326.99         7542.35         7326.99         24.57         21.01         89.38         -809.00         718.30         1720.10 1672.05         35.79           7800.00         7426.99         7642.35         7426.99         24.63         21.09         89.38         -809.00         718.30         1720.10 1671.77         35.59           7800.00         7526.99         7742.35         7526.99         24.70         21.16         89.38         -809.00         718.30         1720.10 1671.63         35.49           7900.00         7626.99         7842.35         7626.99         24.77         21.24         89.38         -809.00         718.30         1720.10 1671.34         35.28													
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8400.00 8126.99 8342.35 8126.99 25.13 21.65 89.38 -809.00 718.30 1720.10 1670.72 34.83		8026.99	8242.35	8026.99	25.05	21.57							
	8400.00	8126.99	8342.35	8126.99	25.13	21.65	89.38	-809.00	718.30	1720.10 1	670.72	34.83	
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## Kerr-McGee Oil & Gas Onshore LP

NBU #1022-13K-3T, #1022-13O4S, #1022-13O1CS, #1022-13O2S, #1022-13D4S, #1022-13I3S, #1022-13O1AS, #1022-13J4S, #1022-13I4S, #1022-13L4S, #1022-13L3S, #1022-13K3S, #1022-13M2AS, #1022-13N2S, #1022-13N1S, #1022-13M2CS & #1022-13M1S SECTION 13, T10S, R22E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 0.3 MILES ON THE SEEP RIDGE ROAD TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 12.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 1.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST: TURN LEFT AND PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 1.9 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 0.5 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION PROCEED APPROXIMATELY 3.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 0.7 MILES TO THE JUNCTION. OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY, THEN SOUTHWESTERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 5.1 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTH; TURN RIGHT AND PROCEED IN A SOUTHERLY, THEN SOUTHWESTERLY DIRECTION APPROXIMATELY 1.9 MILES TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 58.7 MILES.

## Kerr-McGee Oil & Gas Onshore LP

NBU #1022-13K-3T, #1022-13O4S, #1022-13O1CS, #1022-13O2S, #1022-13K4S, #1022-13I3S, #1022-13O1AS, #1022-13J4S, #1022-13I4S, #1022-13I4S, #1022-13L4S, #1022-13L3S, #1022-13K3S, #1022-13M2AS, #1022-13N2S, #1022-13N1S, #1022-13M2CS & #1022-13M1S

LOCATED IN UINTAH COUNTY, UTAH SECTION 13, T10S, R22E, S.L.B.&M.



PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKES

**CAMERA ANGLE: SOUTHERLY** 



PHOTO: VIEW OF EXISTING ACCESS

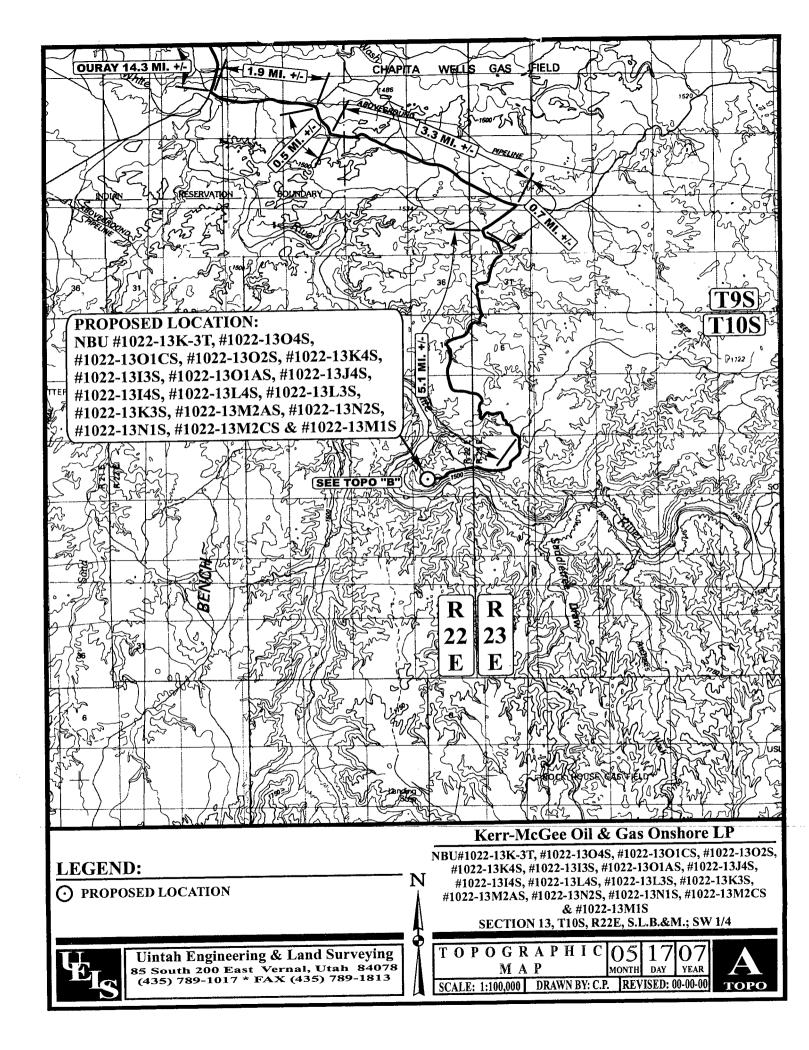
**CAMERA ANGLE: WESTERLY** 

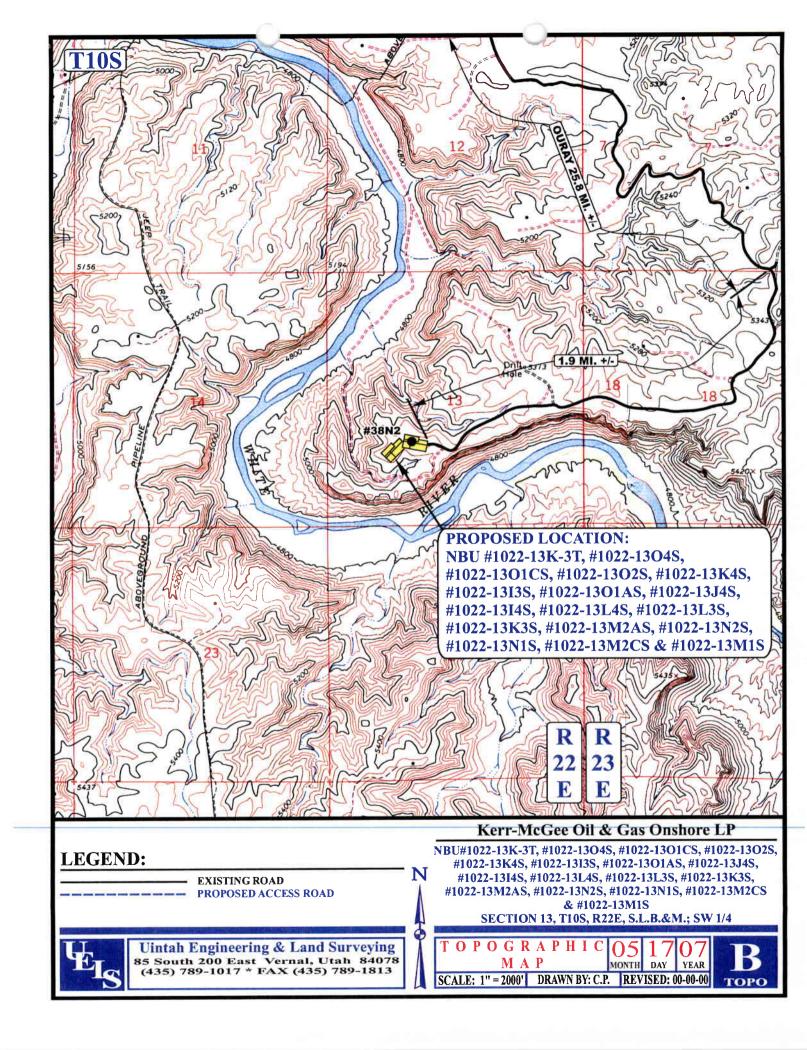
РНОТО

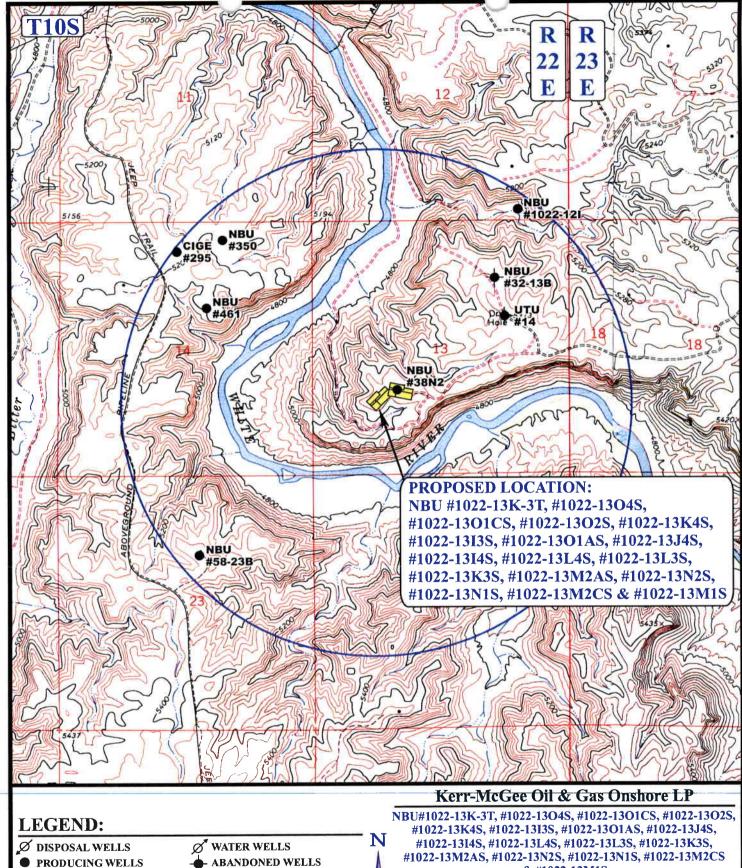
Uintah Engineering & Land Surveying

85 South 200 East Vernal, Utah 84078
435-789-1017 uels@uelsinc.com

LOCATION PHOTOS 05 17 07
MONTH DAY YEAR
TAKEN BY: L.K. DRAWN BY: C.P. REVISED: 00-00-00







SHUT IN WELLS

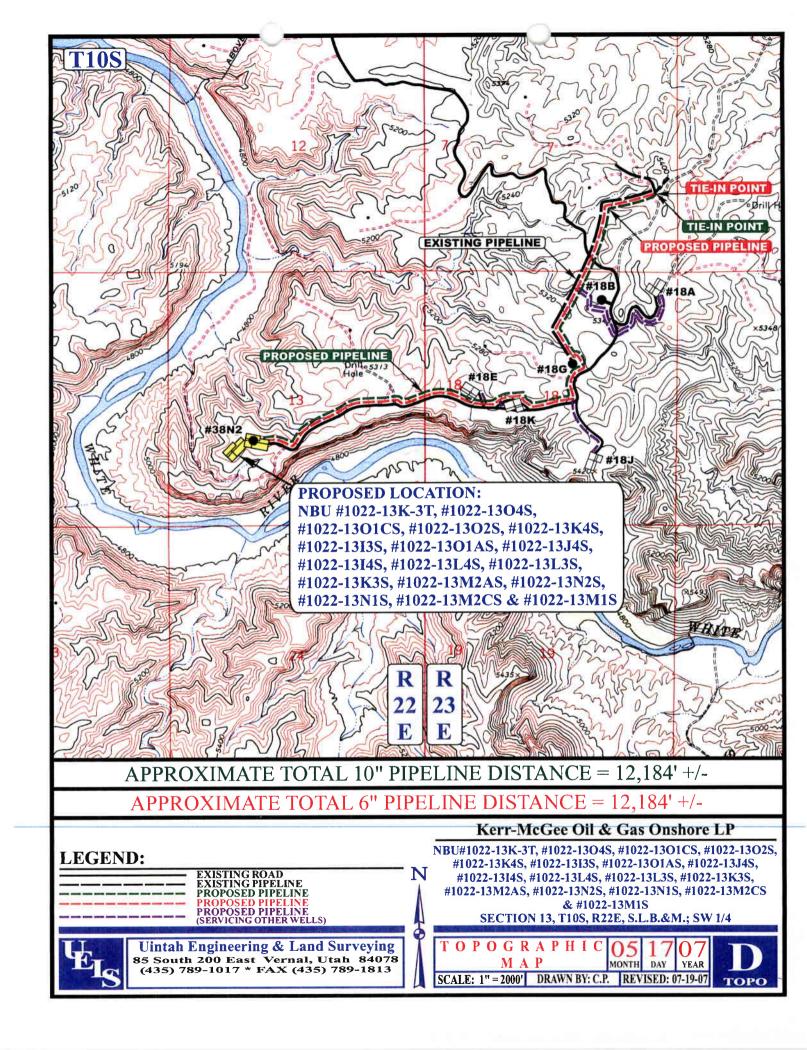
**Uintah Engineering & Land Surveying** 85 South 200 East Vernal, Utah 84078 (435) 789-1017 \* FAX (435) 789-1813

TEMPORARILY ABANDONED

#1022-13M2AS, #1022-13N2S, #1022-13N1S, #1022-13M2CS & #1022-13M1S

SECTION 13, T10S, R22E, S.L.B.&M.; SW 1/4

TOPOGRAPHI MONTH DAY YEAR SCALE: 1" = 2000' DRAWN BY: C.P. REVISED: 00-00-00



## Kerr-McGee Oil & Gas Onshore LP

NBU #1022-13K-3T, #1022-13O4S, #1022-13O1CS, #1022-13O2S, #1022-13K4S, #1022-13I3S, #1022-13O1AS, #1022-13J4S, #1022-13I4S, #1022-13I4S, #1022-13L4S, #1022-13L3S, #1022-13K3S, #1022-13M2AS, #1022-13N1S, #1022-13M2CS & #1022-13M1S

PIPELINE ALIGNMENT

LOCATED IN UINTAH COUNTY, UTAH SECTION 13, T10S, R22E, S.L.B.&M.

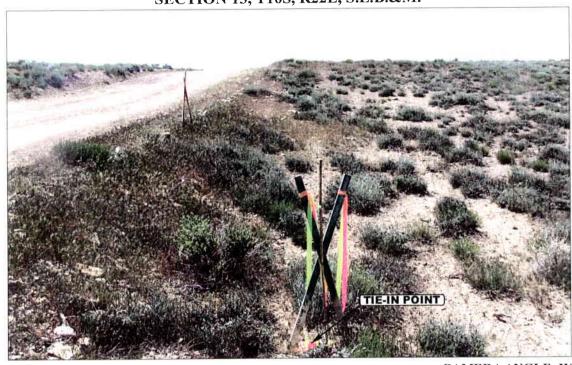


PHOTO: VIEW FROM TIE-IN POINT

**CAMERA ANGLE: WESTERLY** 

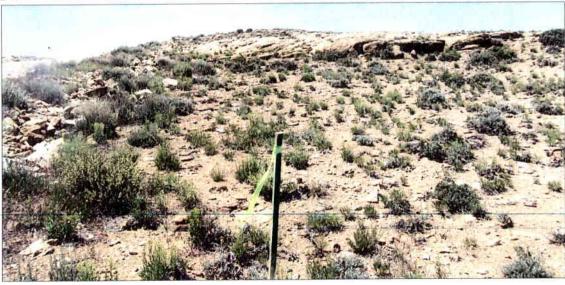
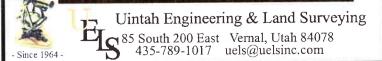
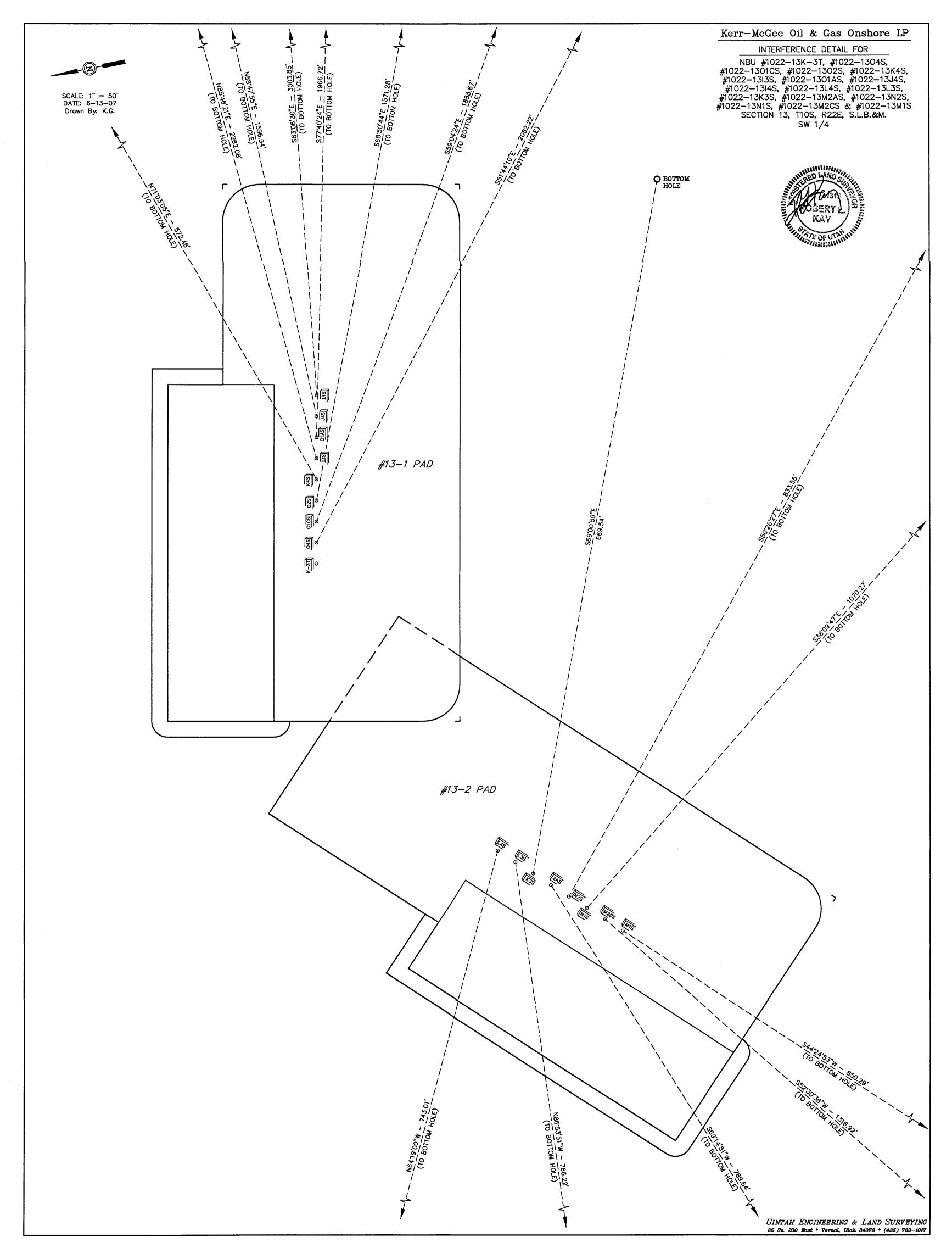


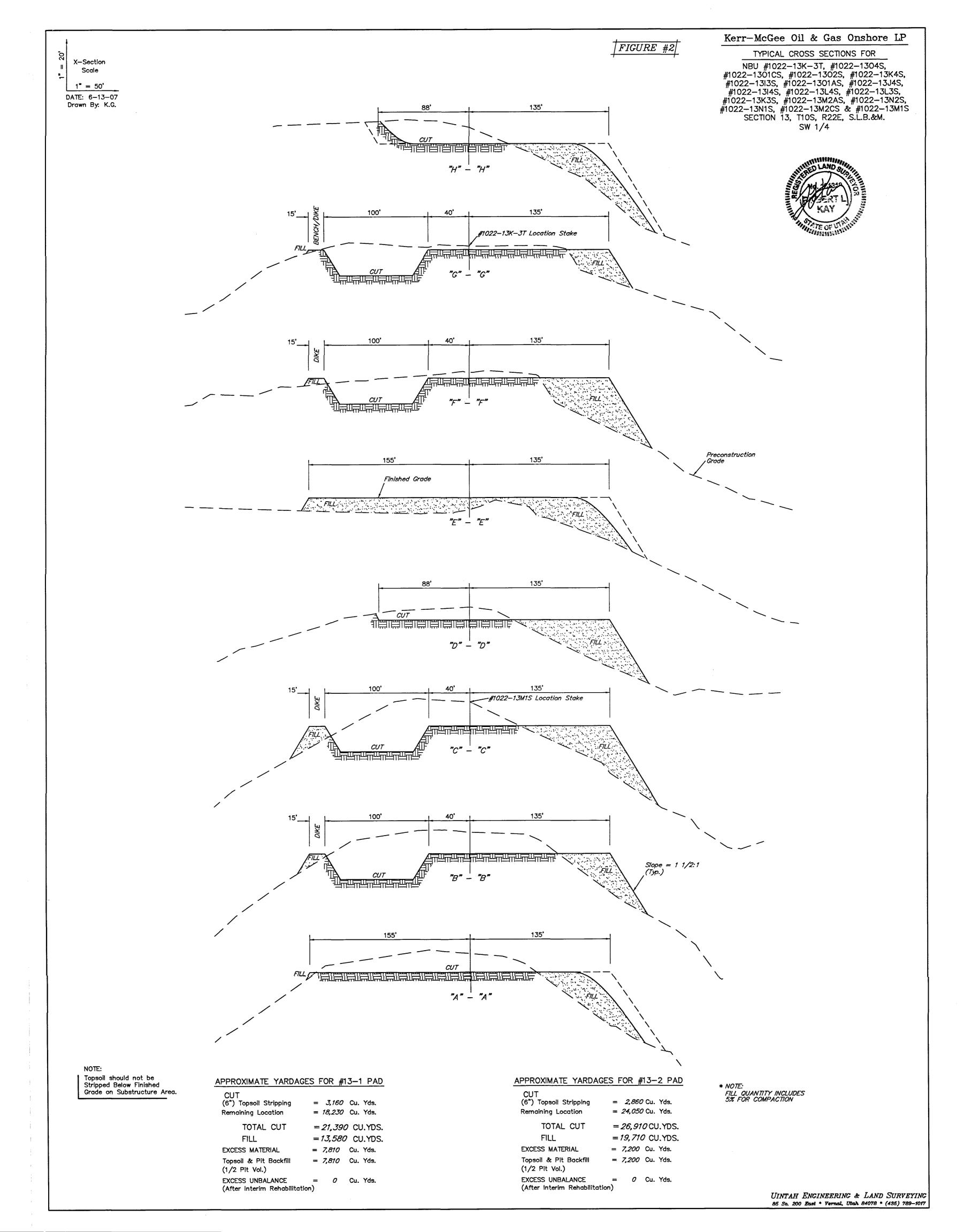
PHOTO: VIEW OF PIPELINE ALIGNMENT

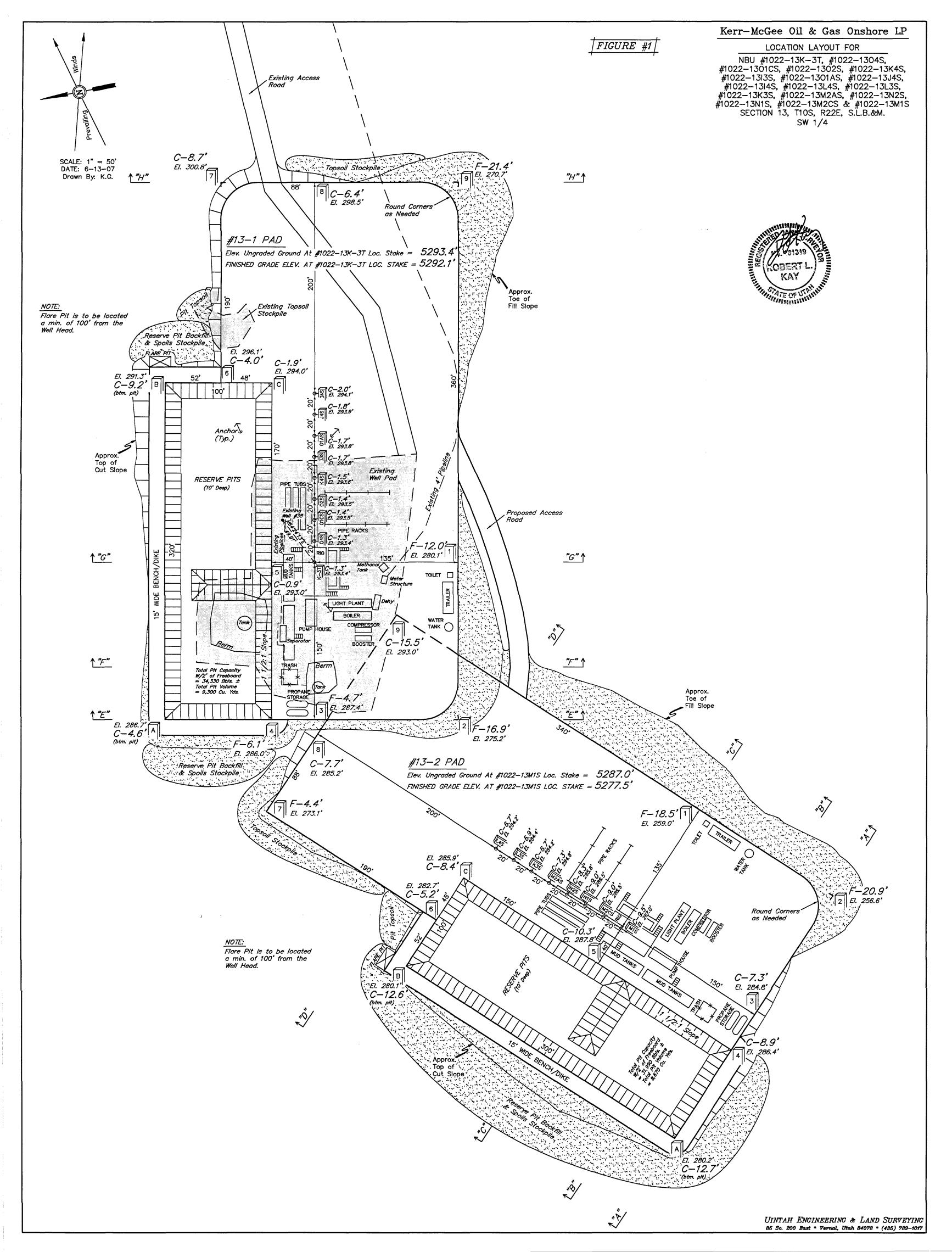
**CAMERA ANGLE: WESTERLY** 



PIPELINE PHOTOS 05 17 07 PHOTO
TAKEN BY: L.K. | DRAWN BY: C.P. | REVISED: 00-00-00

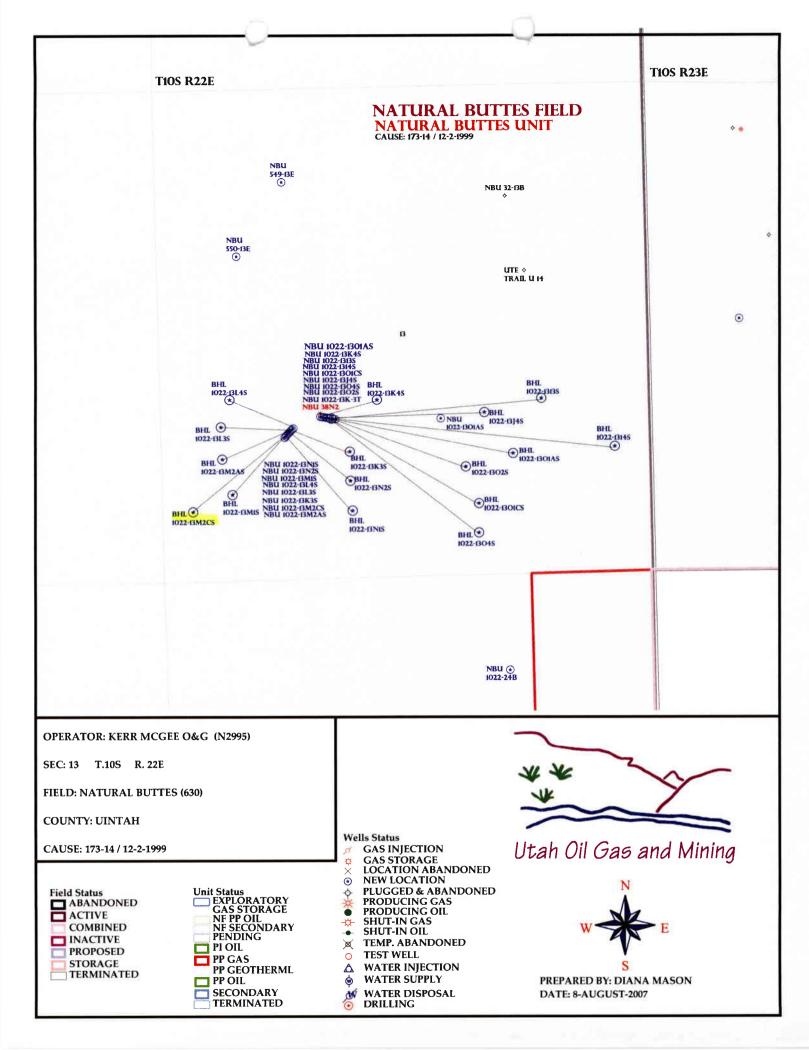






## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 08/06/2007	API NO. ASSIGNED: 43-047-39488
WELL NAME: NBU 1022-13M2CS  OPERATOR: KERR-MCGEE OIL & GAS ( N2995 )  CONTACT: SHEILA UPCHEGO	PHONE NUMBER: 435-781-7024
PROPOSED LOCATION:	INSPECT LOCATN BY: / /
NWSW 13 100S 220E	Tech Review Initials Date
SURFACE: 1552 FSL 1289 FWL BOTTOM: 0750 FSL 0270 FWL	Engineering Dun 9/7/07
COUNTY: UINTAH	Geology
LATITUDE: 39.94592 LONGITUDE: -109.3924  UTM SURF EASTINGS: 637337 NORTHINGS: 4422	783 Surface
FIELD NAME: NATURAL BUTTES ( 630	
LEASE TYPE: 3 - State  LEASE NUMBER: STUO-08512-ST  SURFACE OWNER: 3 - State  RECEIVED AND/OR REVIEWED:	PROPOSED FORMATION: WSMVD  COALBED METHANE WELL? NO  LOCATION AND SITING:
Plat  Bond: Fed[] Ind[] Sta[] Fee[]  (No. 22013542 )  Potash (Y/N)  Oil Shale 190-5 (B) or 190-3 or 190-13  Water Permit  (No. 43-8496 )  RDCC Review (Y/N)  (Date: )  HH Fee Surf Agreement (Y/N)  LUA Intent to Commingle (Y/N)	
COMMENTS: Meeds G	herito (06-27-07)
	SHALE ce (sy Cont Stup



# **Application for Permit to Drill Statement of Basis**

Utah Division of Oil, Gas and Mining

8/21/2007

APD No

495

API WellNo Status Well Type Surf Ownr CBM 43-047-39488-00-00 GW S No

Operator KERR-MCGEE OIL & GAS ONSHORE, LP Surface Owner-APD

Well Name NBU 1022-13M2CS Unit

Field UNDESIGNATED Type of Work

Location NWSW 13 10S 22E S 1552 FSL 1289 FWL GPS Coord (UTM) 637337E 4422783N

#### **Geologic Statement of Basis**

Kerr McGee proposes to set 2,100' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 4,300'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 13. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill 8/21/2007
APD Evaluator Date / Time

#### **Surface Statement of Basis**

The general area is in the southeast end of the Natural Buttes Unit, which contains the White River and short rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from ¼ mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 43 air miles to the northwest. Access from Ouray, Utah is approximately 27.7 road miles following Utah State, Uintah County and oilfield development roads to the location.

Seventeen new gas wells are proposed on two connected pads. The pads form a dogleg with the upper pad (#13-1) extending in an east-west direction and the lower pad (#13-2) in a northeast to southwest direction. Corners of the pads overlap with fill from the upper pad, corner 2, extending onto the lower pad at corner 9. Finished elevation of the upper pad is 15 feet higher than the lower pad. A road is proposed on the inside of the dog-leg ramping down to the lower pad. The pads are located on top of a medium width to narrow ridge-top elevated about 500 vertical feet above the White River. The White River forms a bend in the area and somewhat surrounds the locations except on the east-northeast sides. Closest horizontal distance to any well is approximately 1550 feet. Slopes from the ridge steepen and become near vertical sandstone ledges short distances from the pads. Soils are shallow with a rocky subsurface. Except for reserve pit construction blasting is not expected to be required. Pad construction will primarily consist of excavating the top of the ridge filling on the sides of the ridge All fills will catch on existing natural side slopes. No drainage concerns exist. Elongated reserve pits are planned. Pits will be in cut except along corner 'C' on the lower #13-2 pad and corner 'F' on the upper #13-1 pad. Both areas will be reinforced with embankments which include a 15' wide bench and spoils storage. Reserve pits will be lined with double 20 mil. liners and a appropriate thickness of sub-felt to cushion all rocks. A pad for a producing gas well (NBU #38-N2) exist on a portion of the upper pad. Area encompassed for the pads not including spoils storage is approximately 6.7 acres.

Both the surface and minerals for this location are owned by SITLA. Jim Davis of SITLA attended the pre-site visit and expressed no concerns regarding the proposed location except for those discussed above.

The location appears to be the only site for constructing pads and drilling and operating multiple wells in the

Page 1

# Application for Permit to Drill Statement of Basis

Utah Division of Oil, Gas and Mining

Page 2

area.

8/21/2007

It was mutually agreed that the most significant environmental concern with drilling and operating wells in this area was to avoid any leaks or spills from the operations reaching the White River. To reduce chances of this happening, Carroll Estes of Kerr McGee committed to line the pit with a double 20 mil liner with an appropriate thickness of felt sub-liner dependent upon the roughness of the surface of the constructed pit. He also stated they would formulate and follow a plan to monitor the level of fluids in the reserve pit as well as observing the surrounding terrain for any possible leaks. Corrugated metal containments will be constructed around all tanks used for production.

Floyd Bartlett
Onsite Evaluator

6/27/2007 **Date / Time** 

#### Conditions of Approval / Application for Permit to Drill

Category

Condition

Pits

A double synthetic liner each with a minimum thickness of 20 mils and an appropriate

thickness of felt sub-liner to cushion the liners shall be properly installed and

maintained in the reserve pit.

#### **ON-SITE PREDRILL EVALUATION**

#### Utah Division of Oil, Gas and Mining

Operator KERR-MCGEE OIL & GAS ONSHORE, LP

Well Name NBU 1022-13M2CS

API Number 43-047-39488-0 APD No 495 Field/Unit UNDESIGNATED

Location: 1/4,1/4 NWSW Sec 13 Tw 10S Rng 22E 1552 FSL 1289 FWL

GPS Coord (UTM) Surface Owner

#### **Participants**

Floyd Bartlett (DOGM), Jim Davis (SITLA), Carroll Estes, Tony Kznick, and Clay Einerson (Kerr McGee), David Kay (Uintah Engineering and Land Surveying), and Daniel Emmett (UDWR)

#### Regional/Local Setting & Topography

The general area is in the southeast end of the Natural Buttes Unit, which contains the White River and short rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from ¼ mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 43 air miles to the northwest. Access from Ouray, Utah is approximately 27.7 road miles following Utah State, Uintah County and oilfield development roads to the location.

Seventeen new gas wells are proposed on two connected pads. The pads form a dogleg with the upper pad (#13-1) extending in an east-west direction and the lower pad (#13-2) in a northeast to southwest direction. Corners of the pads overlap with fill from the upper pad, corner 2, extending onto the lower pad at corner 9. Finished elevation of the upper pad is 15 feet higher than the lower pad. A road is proposed on the inside of the dog-leg ramping down to the lower pad. The pads are located on top of a medium width to narrow ridge-top elevated about 500 vertical feet above the White River. The White River forms a bend in the area and somewhat surrounds the locations except on the east-northeast sides. Closest horizontal distance to any well is approximately 1550 feet. Slopes from the ridge steepen and become near vertical sandstone ledges short distances from the pads. Soils are shallow with a rocky subsurface. Except for reserve pit construction blasting is not expected to be required. Pad construction will primarily consist of excavating the top of the ridge filling on the sides of the ridge. All fills will catch on existing natural side slopes. No drainage concerns exist. Elongated reserve pits are planned. Pits will be in cut except along corner 'C' on the lower #13-2 pad and corner 'F' on the upper #13-1 pad. Both areas will be reinforced with embankments which include a 15' wide bench and spoils storage. Reserve pits will be lined with double 20 mil. liners and a appropriate thickness of sub-felt to cushion all rocks. A pad for a producing gas well (NBU #38-N2) exist on a portion of the upper pad. Area encompassed for the pads not including spoils storage is approximately 6.7 acres.

Both the surface and minerals for this location are owned by SITLA.

#### Surface Use Plan

**Current Surface Use** 

Grazing Recreational

Wildlfe Habitat

New Road

Miles Well Pad Src Const Material Surface Formation

0.01 Width 290 Length 490 Onsite UNTA

Ancillary Facilities N

#### Waste Management Plan Adequate? Y

8/21/2007 Page 1

#### **Environmental Parameters**

#### Affected Floodplains and/or Wetland N

#### Flora / Fauna

Moderately vegetated with black sagebrush, halogeton, shadscale, rabbit brush, broom snakeweed, cheatgrass, sixweek fescue and spring annuals.

Antelope, coyote, small mammals and birds. Winter domestic sheep grazing

#### Soil Type and Characteristics

Shallow gravely sandy loam.

Erosion Issues N

Sedimentation Issues N

Site Stability Issues N

Drainage Diverson Required N

Berm Required? N

Erosion Sedimentation Control Required? N

Paleo Survey Run? Y Paleo Potental Observed? N Cultural Survey Run? Y Cultural Resources?

#### Reserve Pit

Site-Specific Factors		Site 1	Ranking	
Distance to Groundwater (feet)	>200		0	
Distance to Surface Water (feet)	>1000		0	
Dist. Nearest Municipal Well (ft)	>5280		0	
Distance to Other Wells (feet)	<300		20	
Native Soil Type	Mod permeability		10	
Fluid Type	Fresh Water		5	
<b>Drill Cuttings</b>	Normal Rock		0	
<b>Annual Precipitation (inches)</b>	<10		0	
Affected Populations	<10		0	
<b>Presence Nearby Utility Conduits</b>	Not Present		0	
		Final Score	35	1 Sensitivity Level

#### Characteristics / Requirements

The reserve pit is proposed on the southwest corner of the lower pad. Portions of the outer edge will be within partial fill. A 15' wide bench/dike is planned along the outer edge as well as reserve pit spoils storage along the west end. Finished pit dimensions are 100' x 300' x 10' deep. Carroll Estes of Kerr McGee committed to line the pit with a double 20 mil liner with an appropriate thickness of felt sub-liner dependent upon the roughness of the surface of the constructed pit.

Mr. Estes also stated they would formulate and follow a plan to monitor the level of fluids in the reserve pit as well as observing the surrounding terrain for any possible leaks.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 40 Pit Underlayment Required? Y

8/21/2007 Page 2

#### Other Observations / Comments

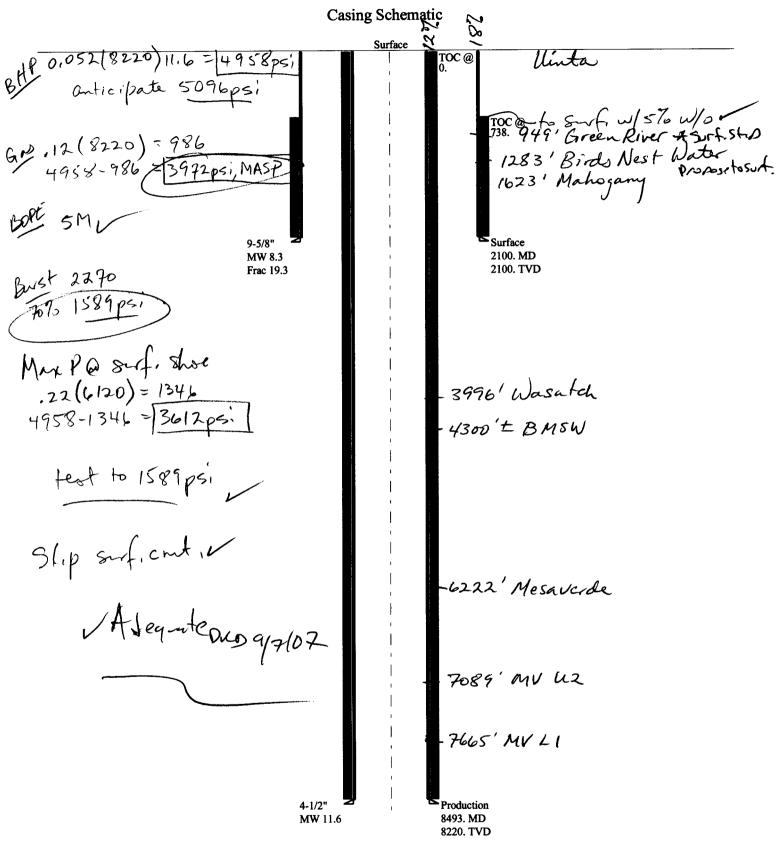
Daniel Emmet represented the Utah Division of Wildlife Resources. Mr. Emmet stated the area is classified as critical yearlong habitat for antelope. He however recommended no stipulations for this species as the loss of forage from this location is not significant and water not forage is the factor limiting the herd population in the area. No other wildlife is expected to be affected. He gave Carrol Estes, representing Kerr McGee, and Jim Davis copies of his evaluation and a DWR recommended seed mix to use when re-vegetating the area.

Floyd Bartlett **Evaluator** 

6/27/2007 **Date / Time** 

8/21/2007 Page 3

### 2007-09 Kerr McGee NBU 1022-13M2CS



2007-09 Kerr McGee NBU 1022-13M2CS Well name:

Kerr McGee Oil & Gas Onshore L.P. Operator:

Project ID: String type: Surface 43-047-39488

Uintah County, Utah Location:

Minimum design factors: **Environment:** Design parameters: H2S considered?

No Collapse: **Collapse** Surface temperature: 75 °F Design factor 1.125 pqq 008.8 Mud weight: Bottom hole temperature: 104 °F Design is based on evacuated pipe. 1.40 °F/100ft Temperature gradient:

Minimum section length: 1,300 ft

Burst:

738 ft 1.00 Cement top: Design factor

**Burst** Max anticipated surface

1.848 psi pressure: Non-directional string. Internal gradient: 0.120 psi/ft Tension:

1.80 (J) Calculated BHP 8 Round STC: 2,100 psi 8 Round LTC: 1.80 (J) 1.60 (J) Buttress: No backup mud specified.

Premium: 1.50 (J) Body yield: 1.50 (B)

Re subsequent strings: Next setting depth:

Neutral point:

Tension is based on buoyed weight. Next mud weight: 11.600 ppg 1.844 ft Next setting BHP: 4,953 psi 19.250 ppg Fracture mud wt: 2,100 ft Fracture depth: 2,100 psi Injection pressure:

60

True Vert Measured Drift Internal **Nominal** End Segment Run Capacity **Finish** Depth Depth Diameter Weight Grade Lenath Size Sea (ft) (in) (ft³) (ft) (in) (lbs/ft) (ft) 2100 8.876 927.9 2100 32.30 ST&C 1 2100 9.625 H-40 **Tension Tension Tension** Collapse Collapse Burst **Burst Burst** Run Collapse Strength Design Design Load Strength Design Load Load Strength Seq **Factor Factor** (psi) **Factor** (Kips) (Kips) (psi) (psi) (psi)

2270

1.08

2100

Helen Sadik-Macdonald Prepared Div of Oil, Gas & Minerals

1370

1.513

Phone: (801) 538-5357 FAX: (801) 359-3940

Date: September 4,2007 Salt Lake City, Utah

254

8.220 ft

4.26 J

Remarks:

Collapse is based on a vertical depth of 2100 ft, a mud weight of 8.3 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

905

1

Well name: 2007-09 Kerr McGee NBU 1022-13M2CS

Operator: Kerr McGee Oil & Gas Onshore L.P.

String type: Production Project ID:

43-047-39488

Location: Uintah County, Utah

Design parameters: Minimum design factors: Environment:
Collapse: H2S considered?

Tension: 8 Round STC:

(psi)

4953

CollapseCollapse:H2S considered?NoMud weight:11.600 ppgDesign factor1.125Surface temperature:75 °FDesign is based on evacuated pipe.Bottom hole temperature:190 °F

Temperature gradient: 1.40 °F/100ft

Minimum section length: 1.500 ft

1.80 (J)

**Factor** 

1.57

Burst:

Design factor 1.00 Cement top: Surface

Burst
Max anticipated surface

pressure: 3,145 psi

Internal gradient: 0.220 psi/ft Calculated BHP 4,953 psi

8 Round LTC: 1.80 (J)
No backup mud specified. Buttress: 1.60 (J)

**Factor** 

1.284

Premium: 1.50 (J) Body yield: 1.50 (B)

Tension is based on buoyed weight.

Neutral point: 7.068 ft

**Nominal** End True Vert Measured Drift Internal Run Segment Finish Depth Depth Diameter Capacity Length Size Weight Grade Seq (ft³) (lbs/ft) (ft) (ft) (in) (ft) (in) 8493 3.875 741.2 LT&C 8220 8493 11.60 **I-80** 1 4.5 **Burst Tension Tension Tension** Collapse **Burst** Run Collapse Collapse **Burst** Strength Load Strength Design Load Strength Design Load Design Seq

(psi)

7780

Prepared Helen Sadik-Macdonald by: Div of Oil, Gas & Minerals

(psi)

6360

(psi)

4953

Phone: (801) 538-5357 FAX: (801) 359-3940 Date: September 4,2007 Salt Lake City, Utah

(Kips)

212

**Directional Info - Build & Drop** 

2260 ft

1299 ft

o°

**Factor** 

2.69 J

2.5 °/100ft

Kick-off point

(Kips)

79

Departure at shoe:

Maximum dogleg:

Inclination at shoe:

Remarks:

1

Collapse is based on a vertical depth of 8220 ft, a mud weight of 11.6 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

### **United States Department of the Interior**

#### BUREAU OF LAND MANAGEMENT

Utah State Office P.O. Box 45155 Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

August 9, 2007

#### Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2007 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2007 within the Natural Buttes Unit, Uintah County, Utah.

API# WELL NAME LOCATION

(Proposed PZ Wasatch/MesaVerde)

43-047-39473	NBU	1022-13K4S BHL	~		T10S T10S	R22E R22E			1745 2280	FWL FWL
43-047-39474	NBU	1022-1313S BHL	Sec Sec			R22E R22E		FSL FSL	1764 1225	FWL FEL
43-047-39475	NBU	1022-1314S BHL				R22E R22E				FWL FEL
43-047-39476	NBU	1022-1301CS BHL	Sec Sec	13 13		R22E R22E		FSL FSL	1705 1920	FWL FEL
43-047-39477	NBU	1022-13J4S BHL			T10S T10S	R22E R22E	1728 1760	FSL FSL	1804 1845	FWL FEL
43-047-39478	NBU	1022-1301AS BHL	Sec Sec			R22E R22E				FWL FEL
43-047-39479	NBU	1022-1302S BHL	Sec Sec			R22E R22E	1743 1175	FSL FSL	1725 2055	FWL FEL

43-047-39480	NBU	1022-1304S BHL				R22E R22E				
43-047-39481	NBU	1022-13K3S BHL				R22E R22E				
43-047-39482	NBU	1022-13M1S BHL				R22E R22E				FWL FWL
43-047-39483	NBU	1022-13M2AS BHL				R22E R22E				FWL FWL
43-047-39484	NBU	1022-13N1S BHL				R22E R22E				
43-047-39485	NBU	1022-13L3S BHL				R22E R22E				
43-047-39486	NBU	1022-13L4S BHL				R22E R22E				FWL FWL
43-047-39487	NBU	1022-13N2S BHL				R22E R22E				FWL FWL
43-047-39488	NBU	1022-13M2CS BHL				R22E R22E			1289 0270	FWL FWL
43-047-39489	NBU	1022 <b>-</b> 13K-3T	Sec	13	T10S	R22E	1754	FSL	1666	FWL

Our records indicate the bottom hole location of the NBU 1022-1314S is closer than 460 feet from the Natural Buttes Unit boundary.

We have no objections to permitting the wells so long as the unit operator receives an exception to the locating and siting requirements of the State of Utah (R649-3-2).

/s/ Michael L. Coulthard

bcc: File - Natural Buttes Unit
 Division of Oil Gas and Mining
 Central Files
 Agr. Sec. Chron
 Fluid Chron

MCoulthard:mc:8-9-07

From:

**Ed Bonner** 

To:

Mason, Diana

Date:

8/20/2007 3:07 PM

Subject:

Well Clearance

CC:

Davis, Jim: Garrison, LaVonne; Hill, Brad; Hunt, Gil

The following wells have been given cultural resources clearance by the Trust Lands Cultural Resources Group:

#### Cabot Oil & Gas Corporation

McKenna 21-32 (API 43 037 31863)

#### Kerr McGee Oil & Gas Onshore LP

NBU 1022-13K4S (API 43 047 39473)

NBU 1022-13I3S (API 43 047 39474)

NBU 1022-13I4S (API 43 047 39475)

NBU 1022-1301CS (API 43 047 39476)

NBU 1022-13J4S (API 43 047 39477)

NBU 1022-1301AS (API 43 047 39478)

NBU 1022-13O2S (API 43 047 39479)

NBU 1022-13O4S (API 43 047 39480)

NBU 1022-13K3S (API 43 047 39481)

NBU 1023-13M1S (API 43 047 39482)

NBU 1022-13M2AS (API 43 047 39483)

NBU 1022-13N1S (API 43 047 39484)

NBU 1022-13L3S (API 43 047 39485)

NBU 1022-13L4S (API 43 047 39486)

NBU 1022-13N2S (API 43 047 39487)

NBU 1022-13M2SC (API 43 047 39488)

NBU 1022-13K-3T (API 43 047 39489)

#### Petro-Canada Resources (USA), Inc

State 16-41 (API 43 015 30721)

State 32-44 (API 43 015 30722)

#### Royale Energy, Inc.

Vernal Equinox 2-2 (API 43 019 31552)

#### XTO Energy, Inc

State of Utah 16-8-31-13 (API 43 015 30719)

State of Utah 16-8-31-33D (API 43 015 30718)

If you have any questions regarding this matter please give me a call.



## State of Utah DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

**Division of Oil Gas and Mining** 

JOHN R. BAZA
Division Director

September 11, 2007

Kerr McGee Oil & Gas Onshore LP 1368 S 1200 E Vernal, UT 84078

Re:

NBU 1022-13M2CS Well, 1552' FSL, 1289' FWL, NW SW, Sec. 13, T. 10 South,

R. 22 East, Bottom Location 750' FSL, 270' FWL, SW SW, Sec. 13, T. 10 South,

R. 22 East, Uintah County, Utah

#### Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-39488.

Sincerely,

Gil Hunt

Associate Director

pab Enclosures

cc:

**Uintah County Assessor** 

SITLA

Bureau of Land Management, Vernal Office



- 4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.
- 5. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)
- 6. In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.
- 7. In accordance with Order in Cause No. 190-5(b) dated October 28, 1982, the Operator shall comply with requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operator shall ensure that the surface and/or production casing is properly cemented over the entire oil shale interval as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the Division.
- 8. Surface casing shall be cemented to the surface.

Operator:		Kerr McGee Oil & Gas Onshore LP					
Well Name & Numl	ber	NBU 1022-13M2CS					
API Number:		43-047-39488					
Lease:	,	STUO-08512-ST					
Location:	NW SW	Sec. 13	<b>T.</b> 10 South	<b>R.</b> 22 East			
<b>Bottom Location:</b>	SW SW	Sec. 13	T. 10 South	<b>R.</b> 22 East			

#### **Conditions of Approval**

#### 1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### 2. Notification Requirements

The operator is required to notify the Division of Oil, Gas and Mining of the following action during drilling of this well:

- 24 hours prior to cementing or testing casing contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to spudding the well contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program – contact Dustin Doucet
- Prior to commencing operations to plug and abandon the well contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well contact Dustin Doucet
- Any changes to the approved drilling plan contact Dustin Doucet

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

Dan Jarvis at: (801) 538-5338 office (801) 942-0873 home
Carol Daniels at: (801) 538-5284 office
Dustin Doucet at: (801) 538-5281 office (801) 733-0983 home

#### 3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

#### DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

#### **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

1368 SOUTH 1200 EAST

city VERNAL

zip 84078 state UT

(435) 781-7024 Phone Number:

Well 1

API Number	Well N	Name	QQ	Sec	Twp	Rng	County	
4304739483	739483 NBU 1022-13M2AS		NESW	13	108	22E	UINTAH	
Action Code	Current Entity Number	New Entity Number	s	Spud Date		Entity Assignment Effective Date		
В	99999	2900	10/29/2007		10/	31 107		

Comments:

MIRU PETE MARTIN BUCKET RIG. NSMVD

SPUD WELL LOCATION ON 10/29/2007 AT 0800 HRS.

BHC = NESW

Well 2

API Number	Well I	Name	QQ	Sec	Twp	Rng	County
4304739484	NBU 1022-13N1S		NESW	13	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	s	Spud Date		Entity Assignment Effective Date	
B	99999	2900	1	0/29/200	07	10	131/07

Comments:

MIRU PETE MARTIN BUCKET RIG.

SPUD WELL LOCATION ON 10/29/2007 AT 1330 HRS.

BHL=SESW

Well 3

API Number	Well	Name	QQ	Sec	Twp	Rng	County
4304739488	NBU 1022-13M2CS		NWSW	13	108	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			ity Assignment iffective Date	
B	99999	2900	10/29/2007		10	131/07	

Comments:

MIRU PETE MARTIN BUCKET RIG. Wsmvb

SPUD WELL LOCATION ON 10/29/2007 AT 1900 HRS

BHL=SWSW

#### **ACTION CODES:**

A - Establish new entity for new well (single well only)

**B** - Add new well to existing entity (group or unit well)

C - Re-assign well from one existing entity to another existing entity

D - Re-assign well from one existing entity to a new entity

E - Other (Explain in 'comments' section)

RECEIVED

#### SHEILA UPCHEGO

Name (Please Print)

Signature

Title

SENIOR LAND SPECIALIST

10/30/2007

Date

OCT 3 0 2007

(5/2000)

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

OTHER

STATE UT

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

GAS WELL 🔽

OIL WELL

CITY VERNAL

SPUD WELL LOCATION ON 10/29/2007 AT 1900 HRS.

KERR McGEE OIL & GAS ONSHORE LP

	FORM 9
	5. LEASE DESIGNATION AND SERIAL NUMBER: STUO-08512-ST
.S	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
reenter plugged wells, or to	7. UNIT or CA AGREEMENT NAME: UNIT #891008900A
	8. WELL NAME and NUMBER: NBU 1022-13M2CS
•	9. API NUMBER: 4304739488
HONE NUMBER: (435) 781-7024	10. FIELD AND POOL, OR WILDCAT: NATURAL BUTTES
	COUNTY: UINTAH
	STATE: UTAH
F NOTICE, REPO	RT, OR OTHER DATA
PE OF ACTION	
	REPERFORATE CURRENT FORMATION
REAT	SIDETRACK TO REPAIR WELL
RUCTION	TEMPORARILY ABANDON
CHANGE	TUBING REPAIR
BANDON	VENT OR FLARE
	WATER DISPOSAL
J (START/RESLIME)	☐ WATER SHUT-DEE

FOOTAGES AT SURFACE: 1552'FSL, 1289'FWL 10S 22E QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWSW 13 CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, R 11, TYPE OF ACTION TYPE OF SUBMISSION DEEPEN ACIDIZE NOTICE OF INTENT FRACTURE TREAT (Submit in Duplicate) ALTER CASING Approximate date work will start: CASING REPAIR NEW CONSTRUCTION CHANGE TO PREVIOUS PLANS OPERATOR CHANGE PLUG AND ABANDON CHANGE TUBING SUBSEQUENT REPORT CHANGE WELL NAME PLUG BACK (Submit Original Form Only) PRODUCTION (START/RESUME) CHANGE WELL STATUS Date of work completion: COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE ✓ OTHER: WELL SPUD RECOMPLETE - DIFFERENT FORMATION CONVERT WELL TYPÉ 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU PETÉ MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX.

ZIP 84078

NAME (PLEASE PRINT) SHEILA UPCHEGO TITI	SENIOR LAND ADMIN SPECIALIST
SIGNATURE / MULL MOUNTAIN DAT	10/30/2007

(This space for State use only)

TYPE OF WELL

2. NAME OF OPERATOR:

4. LOCATION OF WELL

3. ADDRESS OF OPERATOR:

1368 SOUTH 1200 EAST

RECEIVED NOV 0 1 2007

DEPARTMENT OF NATURAL RESOURCES	1 Ordin 3
DIVISION OF OIL, GAS AND MINING	5. LEASE DESIGNATION AND SERIAL NUMBER: STUO-08512-ST
SUNDRY NOTICES AND REPORTS ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	7. UNIT OF CA AGREEMENT NAME: UNIT #891008900A
1. TYPE OF WELL OIL WELL GAS WELL OTHER	8. WELL NAME and NUMBER: NBU 1022-13M2CS
2. NAME OF OPERATOR: KERR McGEE OIL & GAS ONSHORE LP	9. API NUMBER: 4304739488
3. ADDRESS OF OPERATOR: 1368 SOUTH 1200 EAST CITY VERNAL STATE UT ZIP 84078 PHONE NUMBER: (435) 781-7024	10. FIELD AND POOL, OR WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL	1
FOOTAGES AT SURFACE: 1552'FSL, 1289'FWL	COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWSW 13 10S 22E	STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION TYPE OF ACTION	
NOTICE OF INTENT	REPERFORATE CURRENT FORMATION
(Submit in Duplicate)	SIDETRACK TO REPAIR WELL
Approximate date work will start: CASING REPAIR NEW CONSTRUCTION	TEMPORARILY ABANDON
CHANGE TO PREVIOUS PLANS OPERATOR CHANGE	TUBING REPAIR
CHANGE TUBING LIPLUG AND ABANDON  SUBSEQUENT REPORT CHANGE WELL NAME PLUG BACK	VENT OR FLARE
(Submit Original Form Only)	WATER DISPOSAL
Date of work completion:  COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE	WATER SHUT-OFF
COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE  CONVERT WELL TYPE RECOMPLETE - DIFFERENT FORMATION	OTHER: SET SURFACE CSG
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volume	nes etc
MIRU BILL MARTIN AIR RIG ON 11/10/2007. DRILLED 12 1/4" SURFACE HOLE TO 2170 H-40 AND 12 JTS OF 36# J-55 SURFACE CSG. LEAD CMT W/300 SX PREM CLASS G (CMT W/150 SX PREM CLASS G @15.8 PPG 1.15 YIELD. NO RETURNS TO PIT. TOP O @15.8 PPG 1.15 YIELD. DOWN BACKSIDE GOOD CMT TO SURFACE HOLE STAYED I WORT	0'. RAN 9 5/8" 42 JTS OF 32.3# @15.8 PPG 1.15 YIELD. TAILED OUT W/600 SX PREM CLASS G
NAME (PLEASE PRINT) SHEILA UPCHEGO TITLE SENIOR LAND	ADMIN SPECIALIST
SIGNATURE MULL MULL DATE 11/13/2007	

(This space for State use only)

RECEIVED NOV 2 0 2007

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING	5. LEASE DESIGNATION AND SERIAL NUMBER: STUO-08512-ST						
SUNDRY NOTICES AND REPORTS ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:						
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	7. UNIT or CA AGREEMENT NAME: UNIT #891008900A						
1. TYPE OF WELL OIL WELL GAS WELL OTHER	8. WELL NAME and NUMBER: - NBU 1022-13M2CS						
2. NAME OF OPERATOR: KERR McGEE OIL & GAS ONSHORE LP	9. API NUMBER: 4304739488						
3. ADDRESS OF OPERATOR: PHONE NUMBER:	10. FIELD AND POOL, OR WILDCAT: NATURAL BUTTES						
1368 SOUTH 1200 EAST CITY VERNAL STATE UT ZIP 84078 (435) 781-7024  4. LOCATION OF WELL							
FOOTAGES AT SURFACE: 1552'FSL, 1289'FWL	COUNTY: UINTAH						
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NWSW 13 10S 22E	STATE: UTAH						
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REP	PORT, OR OTHER DATA						
TYPE OF SUBMISSION TYPE OF ACTION							
NOTICE OF INTENT	REPERFORATE CURRENT FORMATION						
(Submit in Duplicate) ALTER CASING FRACTURE TREAT  Approximate date work will stad: CASING REPAIR NEW CONSTRUCTION	SIDETRACK TO REPAIR WELL  TEMPORARILY ABANDON						
Approximate date work will start: CASING REPAIR NEW CONSTRUCTION  CHANGE TO PREVIOUS PLANS  OPERATOR CHANGE	TUBING REPAIR						
CHANGE TUBING PLUG AND ABANDON	VENT OR FLARE						
SUBSEQUENT REPORT CHANGE WELL NAME PLUG BACK	WATER DISPOSAL						
(Submit Original Form Only)  CHANGE WELL STATUS  PRODUCTION (START/RESUME)	WATER SHUT-OFF						
Date of work completion:  COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE	✓ OTHER: FINAL DRILLING						
CONVERT WELL TYPE RECOMPLETE - DIFFERENT FORMATIC	OPERATIONS						
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, vol							
FINISHED DRILLING FROM 2170' TO 8495' ON 12/20/2007. RAN 4 1/2" 11.6# I-80 PRODUCTION CSG. LEAD CMT W/310 SX PREM LITE II @11.0 PPG 3.38 YIELD. TAILED CMT W/1250 SX 50/50 POZ @14.3 PPG 1.31 YIELD. DROPPED & DISPLACED W/131.5 BBLS FRESH WATER @2400 PSI BUMPED PLUG @2890 PSI FLOAT HELD W/1.5 BBL RETURN GOOD RETURNS THROUGHOUT CMT JOB W/30 BBLS CMT TO SURFACE. N/ND BOPE & SET SLIPS ON 4 1/2 PROD CSG. ROUGH CUT CSG & L/OUT SAME CLEAN MUD TANKS.							
RELEASED PIONEER RIG 54 ON 12/22/2007 AT MIDNIGHT.							
OUT A LIBOUTOO SENIOD I ANI	D ADMIN SPECIALIST						
NAME (PLEASE PRINT)	JAMES TO LOW LEGS						
SIGNATURE // /////////////////////////////////							

(This space for State use only)

## NOTICE OF LATE REPORTING DRILLING & COMPLETION INFORMATION

Utah Oil and Gas Conservation General Rule R649-3-6 states that,

Operators shall submit monthly status reports for each drilling well (including wells where drilling operations have been suspended).

Utah Oil and Gas Conservation General Rule R649-3-21 states that,

- A well is considered completed when the well has been adequately worked to be capable of producing oil or gas or when well testing as required by the division is concluded.
- Within 30 days after the completion or plugging of a well, the following shall be filed:
  - Form 8, Well Completion or Recompletion Report and Log
  - · A copy of electric and radioactivity logs, if run
  - · A copy of drillstem test reports,
  - A copy of formation water analyses, porosity, permeability or fluid saturation determinations
  - · A copy of core analyses, and lithologic logs or sample descriptions if compiled
  - A copy of directional, deviation, and/or measurement-while-drilling survey for each horizontal well

Failure to submit reports in a timely manner will result in the issuance of a Notice of Violation by the Division of Oil, Gas and Mining, and may result in the Division pursuing enforcement action as outlined in Rule R649-10, Administrative Procedures, and Section 40-6-11 of the Utah Code.

As of the mailing of this notice, the division has not	received the required	I reports for
Operator: Kerr-McGee Oil & Gas Onshore, LP	Today's Da	te: <u>04/21/2008</u>
Well: 43 047 39488 NBU 1022-13M2LS 105 22E 13	API Number:	Drilling Commenced:
✓ List Attached		
To avoid compliance action, required reports should Utah Division of Oil, Gas and Mining 1594 West North Temple, Suite 1210 P.O. Box 145801	d be mailed within 7 b	ousiness days to:
Salt Lake City, Utah 84114-5801		
If you have questions or concerns regarding this mat _(801) 538-5260	atter, please contact <sub>-</sub>	Rachel Medina

## NOTICE OF LATE REPORTING DRILLING & COMPLETION INFORMATION

#### **ATTACHMENT**

Operator:	Kerr-McGee Oil & Gas Onshore, LP	Today's Date:	04/21/2008

API Number:	Drilling Commenced:
4304739485	10/26/2007
4304739486	10/26/2007
4304739481	10/27/2007
4304739487	10/27/2007
4304739483	10/29/2007
4304739484	10/29/2007
4304739488	10/29/2007
4304739482	10/30/2007
4304739001	11/01/2007
4304739480	11/12/2007
4304739489	11/12/2007
4304739476	11/13/2007
4304739475	11/15/2007
4304739477	11/15/2007
	4304739485 4304739486 4304739481 4304739487 4304739484 4304739488 4304739482 4304739480 4304739489 4304739476 4304739475

FORM 9

STATE OF UTAH

	DEPARTMENT OF NATURAL RESOURCES	
	DIVISION OF OIL, GAS AND MINING	5. LEASE DESIGNATION AND SERIAL NUMBER: STUO-08512-ST
SUNDRY	NOTICES AND REPORTS ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill red drill horizontal l.	new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to aterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	7. UNIT OF CA AGREEMENT NAME: UNIT #891008900A  8. WELL NAME and NUMBER:
OIL WELL	GAS WELL OTHER	NBU 1022-13M2CS
2. NAME OF OPERATOR: KERR McGEE OIL & GAS	S ONSHORE LP	9. API NUMBER: 4304739488
3. ADDRESS OF OPERATOR:	PHONE NUMBER:	10. FIELD AND POOL, OR WILDCAT:
4. LOCATION OF WELL	Y VERNAL STATE UT ZIP 84078 (435) 781-7024	NATURAL BUTTES
FOOTAGES AT SURFACE: 1552'	FSL, 1289'FWL	COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHIP, RAN	IGE, MERIDIAN: NWSW 13 10S 22E	STATE: UTAH
11. CHECK APP	ROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION	
NOTICE OF INTENT (Submit in Duplicate)	ACIDIZE DEEPEN  ALTER CASING FRACTURE TREAT	REPERFORATE CURRENT FORMATION SIDETRACK TO REPAIR WELL
Approximate date work will start:	CASING REPAIR NEW CONSTRUCTION	TEMPORARILY ABANDON
	CHANGE TO PREVIOUS PLANS OPERATOR CHANGE	TUBING REPAIR
	CHANGE TUBING PLUG AND ABANDON	VENT OR FLARE
SUBSEQUENT REPORT (Submit Original Form Only)	CHANGE WELL NAME PLUG BACK	WATER DISPOSAL
Date of work completion:	CHANGE WELL STATUS PRODUCTION (START/RESUME)	WATER SHUT-OFF
	COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE  CONVERT WELL TYPE  RECOMPLETE - DIFFERENT FORMATION	✓ OTHER: PRODUCTION START-UP
12 DESCRIBE PROPOSED OF CO	DMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volume	
THE SUBJECT WELL LO	CATION WAS PLACED ON PRODUCTION ON 05/01/2008 AT 1	
NAME (PLEASE PRINT) SHEILA U	JPCHEGO TITLE SENIOR LAND	ADMIN SPECIALIST
SIGNATURE ////	C. J. M. DATE 5/2/2008	
(This space for State use only)		RECEIVED

MAY 0 8 2008

Start Date: 10/29/2007 WINS No.: 95386 **NBU 1022-13M2CS** End Date: 12/23/2007 **Operation Summary Report** AFE No.: 2008164 SPUD DATE KB ROUTE FIELD NAME Operator NATURAL BUTTES 10/29/07 5,287 5306 KERR-MCGEE OIL & GAS ONSHORE LP API STATE COUNTY DIVISION UINTAH **ROCKIES** 4304739488 UTAH 1,552.00' FSL 1,289.00' FWL /13/10S/22E Footages: Lat./Long.: Lat./Long.: 39.94591 / -109.39300 Q-Q/Sect/Town/Range: PBMD PBTVD LOG MD MTD TVD 8365 8301 REASON: **EVENT ACTIVITY: DRILLING EVENT INFORMATION:** DATE WELL STARTED/RESUMED: 1 OBJECTIVE: DEVELOPMENT Event End Status: COMPLETE **OBJECTIVE2:** Rig Operation Start Finish Drilling Rig Off Location Rig Release Begin Mobilization Rig On Location Rig Charges **RIG OPERATIONS:** 12/22/2007 12/22/2007 12/12/2007 12/20/2007 12/11/2007 12/11/2007 12/12/2007 PIONEER 54 / 54 P/U Operation Time Duration Phase Code Subco Date de Start-End (hr) 10/29/2007 SUPERVISOR: LEW WELDON Р WAIT ON PETE MARTIN BUCKET RIG F 12 0:00 - 18:00 18.00 DRLCON MOVE IN AND RIG UP BUCKET RIG SPUD WELL @ 1900 HR 6.00 DRLCON 02 Α 18:00 - 0:00 10/29/07 DRILL AND SET 40' OF SCHEDULE 10 PIPE DRILL ROSDENT HOLES FOR RIG 54 BLM AND STATE NOTFIED OF **SPUD** 11/5/2007 SUPERVISOR: LEW WELDON F WAIT ON BILL JR AIR RIG 0:00 - 20:00 20.00 DRLSUR 12 MOVE IN AND RIG UP SPUD WELL @ 2000 HR 11/5/07 DA AT Р 4.00 DRLSUR 02 Α 20:00 - 0:00 REPORT TIME 11/6/2007 SUPERVISOR: LEW WELDON RIG T/D PIOLET HOLE @ 1020' CONDITION HOLE 1 HR DRLSUR Ρ 8.50 02 Α 0.00 - 8:30 Р TRIP DP OUT OF HOLE AND RIG DOWN AIR RIG - 10:30 2.00 DRLSUR 05 Α 8:30 11/10/2007 SUPERVISOR: LEW WELDON F Ρ WAIT ON BILL JR AIR RIG 17.00 DRLSUR 12 0:00 - 17:00 MOVE IN AND RIG UP RIH TO 1020' SPUD WELL @ 1700 HR Ρ 7.00 DRLSUR 02 Α 17:00 - 0:00 11/10/07 HIT TRONA WATER @ 1410' CIRCULATING WITH SKID PUMP DA AT REPORT TIME 11/11/2007 SUPERVISOR: LEW WELDON RIG DRILLING AHEAD CIRCULATING WITH SKID PUMP Р 18.00 DRLSUR 02 Α 0:00 - 18:00 RIG T/D @ 2170' CONDITION HOLE 1 HR Ρ Α 5.00 DRLSUR 02 18:00 - 23:00 Р TRIP DP OUT OF HOLE D DRLSUR 05 23:00 - 0:00 1.00 11/12/2007 SUPERVISOR: LEW WELDON TRIP DP OUT OF HOLE Р - 2:00 2.00 **DRLSUR** 05 D 0.00RUN 2129' OF 9 5/8 CSG AND RIG DOWN AIR RIG В Р - 5:00 3.00 DRLSUR 11 2:00 CEMENT 1ST STAGE WITH 300 SKS NO RETURNS TO PIT Ρ Α DRLSUR 15 1.00 5:00 - 6:00 1ST TOP JOB 150 SKS DOWN BS WOC Р 0.50 DRLSUR 15 Α 6:00 - 6:30 Ρ 2ND TOP JOB 150 SKS DOWN BS WOC 2.00 DRLSUR 15 Α 6:30 - 8:30 3RD TOP JOB 150 SKS DOWN BS WOC Ρ 2.50 DRLSUR 15 Α 8:30 - 11:00

Р

Α

15

4TH TOP JOB 150 SKS DOWN BS WOC

11:00

- 13:00

2.00

**DRLSUR** 

<b>Wins No.: 953</b> EVENT INFORM		l: EVE	NT ACTIVIT			22-13M	265	API No.: 43047394
	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ECTIVE: D					DATE WELL STARTED/RESUMED:
*			IECTIVE2:					Event End Status: COMPLETE
RIG OPERATION	IS:	Begi	n Mobilizatio	n Rig On I	Location	Rig Ch	arges	Rig Operation Start Finish Drilling Rig Release Rig Off Location
PIONEER 54 / 54		1:	2/11/2007	12/11	/2007	12/12/2	2007	12/12/2007 12/20/2007 12/22/2007 12/22/2007
Date	200	ime rt-End	Duration (hr)	Phase	Code	Subco de	P/U	Operation
		- 15:00 - 0:00	2.00 9.00	DRLSUR DRLSUR	15 12	A F	P	5TH TOP JOB 150 SKS DOWN BS GOOD CMT TO SURFACE AND STAYED AT SURFACE NO VISIBLE LEAKS WORT
	5.00	- 0.00	9.00	DRESOR	12			NO VIOIBLE LEARCE WORT
12/11/2007								
SUPERVISOR: H					01	E	Р	RDRT
		- 11:00 - 14:00	11.00 3.00	DRLPRO DRLPRO	01	C	r P	SKID RIG 20' TO NEW LOC. NBU 1022-13M2CS
		- 21:00		DRLPRO	01	В	P	RURT
		- 0:00	3.00	DRLPRO	13	A	P	N/UP BOP (N/UP ROTATING HEAD ASSY, FLOWLINE &
								CHOKELINE
12/12/2007								
SUPERVISOR: I	KENT	MOORE/	JAMES GO	BER				
1	0:00	- 6:00	6.00	DRLPRO	13	С	Р	TEST BOP - RAMS, CHOKE, CHOKE LINE, KELLY & FLOOR VALVES 250 LOW 5000 HIGH - ANNULAR 250 LOW 2500 HIGH CASING 1500
1	6:00	- 12:30	6.50	DRLPRO	05		Р	HPJSM - R/UP L/DN MACHINE - P/UP DIRECTIONAL BHA/DRIL PIPE TO 2059'
. 1	12:30	- 14:00	1.50	DRLPRO	13	Α	Р	INSTALL ROTATING HEAD RUBBER - CENTER BOP - CHECK FOR LEAKS FLOWLINE & SEPERATOR LINES
		- 16:30	2.50	DRLPRO	02	F	Р	DRILL CMT, FE & RATHOLE TO 2189'
1	16:30	- 0:00	7.50	DRLPRO	02	D	Р	DRILL/SLIDE F/2189' TO 2664' ROP= 63.33'/HR START KICK OUT @ 2218' BUILD APRROX 1.7 DEG./63'.
12/13/2007								
SUPERVISOR: I	ZENT	MOORE	IAMES GO	RER				
		- 11:30	11.50	DRLPRO	02	D	Р	SLIDE DRILL F/ 2664' - 3184' (520' @ 45.2fph) 8.5ppg
		- 12:00	0.50	DRLPRO	06	A	P	RIG SER
		- 0:00	12.00	DRLPRO	02	D	Р	DRILL/SLIDE F/3184' TO 3734' ( 550' @ 45.8'/HR) (INC 28.25
								AZM 230.05 @ 3684')
12/14/2007				·				
SUPERVISOR: I	KENT	MOORE/		BER				
		- 13:00	13.00	DRLPRO		D	P	DRILL/SLIDE F/ 3734' - 4272' (538' @ 41.4fph) 8.8ppg
		- 13:30	0.50	DRLPRO		A	Р	RIG SER
		- 15:00	1.50	DRLPRO		D	P	DRILL/SLIDE F/4272' TO 4380' (108' @ 72fph) 9.0ppg REPAIR RIG - RIG AIR COMPRESSOR
		- 15:30	0.50 8.50	DRLPRO DRLPRO		A D	S P	DRILL/SLIDE F/4380' TO 4730'. (350' @ 41.2'/HR)
	10.30	- 0:00	0.00	DICERRO				
12/15/2007						•		
SUPERVISOR:						_	_	DDUL (0) IDE EL (700) - 50501 (500) @ 005 1\) 0.00
		- 14:30		DRLPRO		D	Р	DRILL/SLIDE F/ 4730' - 5252' (522' @ 36fph) 9.6ppg
		- 15:00		DRLPRO		A	Р	RIG SER DRILL/SLIDE F/5252' TO 5520' (268' @ 29.7'/HR) LAST SURVE
	15:00	- 0:00	9.00	DRLPRO	02	D	P	5456' INC 14.31 AZM 227.93
12/16/2007								
SUPERVISOR:	KENT	MOORE	JAMES GO	OBER				
		- 14:00		DRLPRO	02	D	Р	DRILL/SLIDE F/5520' TO 5886' (366'@ 26fph) 9.9ppg
		- 14:30		DRLPRO	06	Α	Р	RIG SER - C/OUT ROTATING RUBBER
	14:30	- 0:00	9.50	DRLPRO	02	D	Р	DRILL/SLIDE F/5886' TO 6104' ( 218'@22.9'/HR)
12/17/2007								
12/17/2007 SUPERVISOR:	KENIT	MOORE	/JAMES GO	OBER				

Vins No.: 95	386			N	BÚ 10	22-13	M2CS	API No.: 43047394					
EVENT INFOR		: EVE	NT ACTIVI	TY: DRILLIN	lG		-	REASON:					
i,		OBJ	ECTIVE: D	EVELOPME	NT			DATE WELL STARTED/RESUMED:					
•		+	ECTIVE2:					Event End Status: COMPLETE					
RIG OPERATIO	NS:	Begin	Mobilization	on Rig On L	Rig Charges		Rig Operation Start Finish Drilling Rig Release Rig Off Location						
PIONEER 54 / 54	4	12	2/11/2007	12/11/	2007	12/12	2/2007	12/12/2007 12/20/2007 12/22/2007 12/22/2007					
Date	Star	ime t-End	Duration (hr)	Phase		Subco de	P/U	Operation					
		- 16:00	0.50	DRLPRO	06	A	P	RIG SER					
	16:00	- 0:00	8.00	DRLPRO	02	D	Р	DRILL/SLIDE 6518' TO 6751' (233' @ 29.1'/HR)					
12/18/2007													
SUPERVISOR:	KENT	MOORE/	JAMES GC	BER									
		- 8:00	8.00	DRLPRO	02	D	Р	DRILL 6751' TO 6960' (209' @ 26.1fph) 10.4ppg					
		- 11:30	3.50	DRLPRO	05	Α	Р	TFNB - MAX DRAG 80K TO 4300' - 20K DRAG 4300' TO CSG SHOE @ 2150'					
	11:30	- 12:30	1.00	DRLPRO	05	Α	Р	L/DN DIRECTIONAL TOOLS - P/UP BIT #2 - SET MM TO 0 deg					
	12:30	- 13:30	1.00	DRLPRO	05	Α	Р	RIH TO 1950'					
	13:30	- 14:00	0.50	DRLPRO	07	Α	S	REPAIR RIG - REPLACED WATER STUFFING BOX OFF					
	44.00	44.00	0.50	חפם ופח	05	Α	Р	DRILLERS SIDE DRAWWORKS RIH F/1950' TO 2150'					
		- 14:30	0.50 2.00	DRLPRO DRLPRO	05 07	A	S	BOILER FUEL JELLING - UNABLE TO MAINTAIN BOILER -					
	16:30	- 16:30 - 19:30	3.00	DRLPRO	05	A	Р	UNTHAWED STEAM LINES & HEATERS RIH F/2150' TO 6960'					
		- 0:00	4.50	DRLPRO	02	В	Р	DRILL 6960' TO 7140' (180'@ 40'/HR)					
12/19/2007	•												
SUPERVISOR:	KENT	MOORE/	JAMES GO				_						
	0:00	- 15:30	15.50	DRLPRO	02	В	P -	DRILL 7104' TO 7753' (649' @ 41.9fph) 10.8ppg					
	15:30	- 16:00	0.50	DRLPRO	06	A	P -	RIG SER					
	16:00	- 0:00	8.00	DRLPRO	02	В	P	DRILL 7753' TO 8070' (317'@ 39.62'/HR)					
12/20/2007													
SUPERVISOR:	KENT	MOORE											
	0:00	- 12:30	12.50	DRLPRO	02	В	Р	DRILL 8070' TO 8370' (300' @ 24fph) 11.4ppg					
		- 13:30	1.00	DRLPRO	04	F	Р	CIRC BTTMS UP F/SAMPLES - GAS SHOW OF 1452 UNITS (BREAK F/8364' TO 8378')					
	13:30	- 17:30	4.00	DRLPRO	02	В	Р	DRILL 8370' TO 8495' (125' @ 31.3fph) 11.6ppg					
	17:30	- 18:30	1.00	DRLPRO	04	F	Р	CIRC BTTMS UP					
	18:30	- 0:00	5.50	DRLPRO	05	E	P	W/TRIP TO 2150'					
12/21/2007													
SUPERVISOR	· KENT	MOORE											
JU. 211110011	0:00	- 5:00	5.00	DRLPRO	05	В	Р	POOH F/LOGS					
	5:00	- 11:30	6.50	DRLPRO		F	Р	HPJSM - R/UP BAKER ATLAS - RUN TRIPLE COMBO TO					
							_	LOGGERS TD @ 8476' MD - 8222' TVD RIH TO 8448' - WASH F/8448' TO 8495'					
		- 15:30	4.00	DRLPRO		F	P	CIRC - HPJSM - R/UP L/DN MACHINE					
		- 17:00		DRLPRO		C	Р	LDDP - RACK 10 STDS HWDP IN DERRICK					
		- 23:00		DRLPRO		A	Р	RETRIEVE WEARBUSHING					
		- 23:30		DRLPRO		B	P P	HPJSM - R/UP CASING CREW & EQUIP					
	23:30	- 0:00	0.50	DRLPRO	11	A		TH JOHN - TVOT OACHTO CITETY & EXCH					
12/22/2007													
SUPERVISOR	: KENT	MOORE						DUNIAGO ITO DDOD CAGINO MADIZED IT NOT MAZINO UD					
	0:00	- 4:00	4.00	CSG	11	В	Р	RUN 108 JTS PROD CASING - MARKER JT NOT MAKING UP- REPLACE MARKER JT - UNABLE TO MOVE CASING AFTER M/UP OF MARKER JOINT					
	4:00	- 12:00	8.00	CSG	04	E	Х	CIRC CASING @ 4536' - UNABLE TO MOVE CASING - WORK CASING, NO MOVEMENT - SPOT 70 bbl DIESEL CONTINUE WORK CASING - CASING FREE @ 12:00 HRS					
	12:00	- 14:00	2.00	CSG	11	В	Р	CONTINUE RUN 93 JTS (TOTAL JTS RUN 201) 4 1/2 PROD CASING TO MD 8495' TVD 8241'					
İ								CASING TO MID 0433 TVD 0241					

Wins No.: 95386				<b>NBU 10</b>	22-13N	M2CS			API No.:	4304739488
EVENT INFORMATION:	EVENT /	ACTIVITY	: DRILL	ING			REASON			
	OBJECT	IVE: DE	<b>VELOPN</b>	IENT			DATE WE	ELL STARTED/F	RESUMED:	
,	OBJECT	IVE2:					Event End	d Status: COMP	LETE	
RIG OPERATIONS:	Begin Mo	bilization	Rig On	Location	Rig Cl	harges	Rig Operation Start	Finish Drilling	Rig Release	Rig Off Location
PIONEER 54 / 54	12/11/	2007	12/1	1/2007	12/12	/2007	12/12/2007	12/20/2007	12/22/2007	12/22/2007
Date Tim Start-I		ration (hr)	Phase	Code	Subco de	P/U		Operat	- 1	
15:30 -	18:00	2.50	CSG	15	A	P	HPJSM - R/UP BJ - PROD CASING W/2 SCAVENGER 9.5 P YIELD - 1250 SKS T DISPLACED W/131 BUMPED PLUG @# RETURN - GOOD R BBLS CEMENT TO	0 BBLS MUD C PG 8.45 YIELD AIL 14.3 PPG 1 5 BBLS FRESH 2890 PSI - FLO ETURNS THRO	LEAN 8.34 PPC - 310 SKS LEA I.31 YIELD - DF I WATER @24 DAT HELD W/	G - 20 SKS .D 11.0 PPG 3.38 ROPPED & 00 PSI - 1.5 BBL
18:00 -	0:00	3.00	CSG	13	Α	P	N/DN BOPE & SET CSG & L/OUT SAM TANK - 130 BBLS R TANKS & WINTER! FULL - RELEASE R	E - TRANSFER IG #59 & 130 B ZE EQUIP - PIT	400 BBLS MUI BLS RIG #38 - LINER OK - R	D TO UPRIGHT CLEAN RIG

Start Date: 4/21/2008 WINS No.: 95386 NBU 1022-13M2CS End Date: **Operation Summary Report** AFE No.: 2008164 SPUD DATE ΚВ ROUTE FIELD NAME NATURAL BUTTES 10/29/07 5,287 5306 KERR-MCGEE OIL & GAS ONSHORE LP STATE DIVISION ΔPI COUNTY ROCKIES UINTAH 4304739488 Footages: 1,552.00' FSL 1,289.00' FWL Lat./Long.: Lat./Long.: 39.94591 / -109.39300 / 13 / 10S / 22E Q-Q/Sect/Town/Range: LOG MD PBMD PBTVD MTD 8365 8301 **EVENT ACTIVITY: COMPLETION** REASON: MV - WHR PAD#2 **EVENT INFORMATION:** DATE WELL STARTED/RESUMED: **OBJECTIVE: DEVELOPMENT Event End Status: OBJECTIVE2: ORIGINAL** Rig Operation Start Finish Drilling Rig Release Rig Off Location Begin Mobilization Rig On Location Rig Charges **RIG OPERATIONS:** Code Subco P/U Operation Time Duration Phase Date Start-End de (hr) 4/21/2008 SUPERVISOR: DOUG CHIVERS Ρ HSM. FRACING & PERFORATING 7:00 - 7:30 0.50 COMP 48 PRIME UP PUMPS & LINES. PRESSURE TEST SURFACE В Ρ 36 7:30 - 18:00 10.50 COMP EQUIPMENT TO 8,500 PSI. STG 1) RIH W/ 3 3/8" EXP GNS, 23 GRM, .36 HOLES, 90 DEG PHASING. PERF 8,430' - 37' 4 SPF, 8,371' - 74' 4 SPF, 40 HOLES. WHP 1.580 PSI BRK 3.185 PSI @ 3.4 BPM, ISIP 2,380 PSI, FG .72. PMP 100 BBLS @ 51.6 BPM @ 4,800 PSI = 30 OF 40 HOLES OPEN. MP 7,048, MR 52.3 BPM, AP 4,612 PSI, AR 51.2 BPM, ISIP 2,831 PSI, FG.78, NPI 451 PSI. PUMP 1,053 BBLS OF SW & 24,861 LBS OF 30/50 SAND & 5,000 LBS OF 20/40 RESIN COATED SAND. TOTAL PROP 29,861 LBS. STG 2) RIH W/ 3 3/8" EXP GNS, 23 GRM, .36 HOLES, 90 DEG PHASING. SET 8K BAKER CBP @ 8,230' & PERF 8,193' - 8,200' 4 SPF, 8,157' - 60' 4 SPF, 40 HOLES. WHP 2,350 PSI BRK 4,609 PSI @ 2.9 BPM, ISIP 2,507 PSI, FG .75. PMP 100 BBLS @ 50.9 BPM @ 5,050 PSI = 26 OF 40 HOLES OPEN. MP 5,395, MR 51.3 BPM, AP 4,573 PSI, AR 50.8 BPM, ISIP 2,708 PSI, FG .77, NPI 201 PSI. PUMP 1,249 BBLS OF SW & 39,023 LBS OF 30/50 SAND & 5,050 LBS OF 20/40 RESIN COATED SAND. TOTAL PROP 44,073 LBS. STG 3) RIH W/ 3 3/8" EXP GNS, 23 GRM, .36 HOLES, 90 & 120 DEG PHASING. P/U 4 1/2" CBP SET 8K BAKER CBP @ 8,038' & PERF 8,003' - 08' 4 SPF, 7,938' - 42' 3 SPF, 7,817' - 20' 3 SPF, 41 HOLES. WHP 2,210 PSI BRK 4,426 @ 3.0 BPM, ISIP 2,602 PSI, FG .77. PMP 100 BBLS @ 51.6 BPM @ 4,700 PSI = 38 OF 41 HOLES MP 6,053, MR 52.0 BPM, AP 4,498 PSI, AR 51.5 BPM, ISIP 2,606 PSI, FG.77, NPI 4 PSI. PUMP 2,131 BBLS OF SW & 73,666 LBS OF 30/50 SAND & 5,123 LBS OF 20/40 RESIN COATED SAND. TOTAL PROP 78,789 LBS. SWI SDFN 4/22/2008 SUPERVISOR: DOUG CHIVERS HSM. FRACING & PERFORATING Ρ 0.50 COMP 48 7:00 - 7:30

EVENT INFO	RMATION:	OBJE	IT ACTIVIT CTIVE: DI CTIVE2: (	EVELOPM	ENT		REASON: MV - WHR PAD#2 DATE WELL STARTED/RESUMED: Event End Status:							
RIG OPERAT	IONS:	Begin	Mobilizatio	n Rig On	Location	Rig C	harges	Rig Operation Start Finish Drilling Rig Release Rig Off Location						
Date	Time Start-Ei		Duration (hr)	Phase	Code	Subco de	P/U	Operation						
	7:30 - 1		11.50	COMP	36	В	P	STG 4) RIH W/ 3 3/8" EXP GNS, 23 GRM, .36 HOLES, 90 & 120 DEG PHASING. P/U 4 1/2" CBP SET 8K BAKER CBP @ 7,528' & PERF 7,493' - 98' 4 SPF, 7,426' - 30' 4 SPF, 7,365' - 68' 3 SPF, 45 HOLES. WHP 2,100 PSI BRK 3,187 PSI @ 2.5 BPM, ISIP 2,499 PSI, FG .78. PMP 100 BBLS @ 50 BPM @ 4,600 PSI = 32 OF 45 HOLES OPEN. MP 5,295, MR 50.4 BPM, AP 3,750 PSI, AR 50.1 BPM, ISIP 2,578 PSI, FG .79, NPI 79 PSI. PUMP 1,095 BBLS OF SW & 32,696 LBS OF 30/50 SAND & 5,043 LBS OF 20/40 RESIN COATED SAND. TOTAL PROP 37,739 LBS. STG 5) RIH W/ 3 3/8" EXP GNS, 23 GRM, .36 HOLES, 90 DEG PHASING. P/U 4 1/2" CBP SET 8K BAKER CBP @ 7,252' & PERF 7,215' - 22' 4 SPF, 7,165' - 68' 4 SPF, 40 HOLES. WHP 1970 PSI BRK 2032 PSI @ 3.4 BPM, ISIP 1791 PSI, FG .69. PMP 100 BBLS @ 50 BPM @ 4,260 PSI = 24 OF 40 HOLES OPEN. MP 4,587, MR 50.7 BPM, AP 3,696 PSI, AR 50.1 BPM, ISIP 2,407 PSI, FG .77, NPI 616 PSI. PUMP 2,593 BBLS OF SW & 92,482 LBS OF 30/50 SAND & 4,681 LBS OF 20/40 RESIN COATED SAND. TOTAL PROP 97,163 LBS. STG 6 ) RIH W/ 3 3/8" EXP GNS, 23 GRM, .36 HOLES, 90 & 120 DEG PHASING. P/U 4 1/2" CBP SET 8K BAKER CBP @ 7,090' & PERF 7,056' - 60' 4 SPF, 7,026' - 34' 3 SPF, 40 HOLES. WHP 1,750 PSI BRK 1,872 PSI @ 2.6 BPM, ISIP 1,673 PSI, FG .68. PMP 100 BBLS @ 50.5 BPM @ 4,550 PSI = 30 OF 40 HOLES OPEN 75% MP 4,730, MR 51.5 BPM, AP 4,039 PSI, AR 50.5 BPM, ISIP 2,461 PSI, FG .79, NPI 788 PSI. PUMP 1,633 BBLS OF SW & 53,723 LBS OF 30/50 SAND & 5,663 LBS OF 20/40 RESIN COATED SAND. TOTAL PROP 59,386 LBS. SWI SDFN						
4/23/2008	R: DOUG CH	IIV/EDS		-										
OUI LIVIOUI	7:00 -		, 0.50	СОМР	48		Р	HSM. FRACING & PERFORATING						

Vins No.: 9538	6			22-13M	2CS	API No.: 4304739488
EVENT INFORMAT		ACTIVITY: COMPLE				REASON: MV - WHR PAD#2 DATE WELL STARTED/RESUMED:
•		IVE: DEVELOPMEN IVE2: ORIGINAL	41			Event End Status:
RIG OPERATIONS		bilization Rig On Lo	cation	Rig Cha	arges	Rig Operation Start Finish Drilling Rig Release Rig Off Location
RIG OPERATIONS	. 20g					
Date	Time Du	ration Phase (	Code	Subco	P/U	Operation
	Start-End (	(hr)		de		
7:	30 - 18:30 1	1.00 COMP	36	В		STG 7 ) RIH W/ 3 3/8" EXP GNS, 23 GRM, .36 HOLES, 90 DEG PHASING. P/U 4 1/2" CBP SET 8K BAKER CBP @ 6,861' & PERF 6,826' - 31' 4 SPF, 6,789' - 94' 4 SPF, 40 HOLES. WHP 1,525 PSI BRK 2,827 PSI @ 2.9 BPM, ISIP 1,608 PSI, FG .68. PMP 100 BBLS @ 51.2 BPM @ 3,700 PSI = 29 OF 40 HOLES OPEN 73% MP 4,561, MR 51 BPM, AP 3,770 PSI, AR 51.2 BPM, ISIP 2,343 PSI, FG .78, NPI 735 PSI. PUMP 1,957 BBLS OF SW & 64,524 LBS OF 30/50 SAND & 4,660 LBS OF 20/40 RESIN COATED SAND. TOTAL PROP 72,184 LBS. STG 8 ) RIH W/ 3 3/8" EXP GNS, 23 GRM, .36 HOLES, 90 DEG
					,	PHASING. P/U 4 1/2" CBP SET 8K BAKER CBP @ 6,692' & PERF 6,658' - 62' 4 SPF, 6,638' - 44' 4 SPF, 40 HOLES. WHP 1,830 PSI BRK 1,909 PSI @ 3.2 BPM, ISIP 1,868 PSI, FG .72. PMP 100 BBLS @ 51.3 BPM @ 4,100 PSI = 38 OF 40 HOLES OPEN 86% MP 4,472, MR 52.3 BPM, AP 3,633 PSI, AR 51.4 BPM, ISIP 2,238 PSI, FG .78, NPI 370 PSI. PUMP 2,988 BBLS OF SW & 108,544 LBS OF 30/50 SAND & 4,658 LBS OF 20/40 RESIN COATED SAND. TOTAL PROP 113,202 LBS.
						STG 9 ) RIH W/ 3 3/8" EXP GNS, 23 GRM, .36 HOLES, 90 DEG PHASING. P/U 4 1/2" CBP SET 8K BAKER CBP @ 6,496' & PERF 6,456' - 66' 4 SPF, 40 HOLES. WHP 1,675 PSI BRK 3,406 PSI @ 3.0 BPM, ISIP 1,932 PSI, FG .74. PMP 100 BBLS @ 50.3 BPM @ 4,000 PSI = 40 OF 40 HOLES OPEN 100% MP 4,225, MR 51 BPM, AP 3,551 PSI, AR 50.5 BPM, ISIP 1,898 PSI, FG .73, NPI -34 PSI. PUMP 655 BBLS OF SW & 15,052 LBS OF 30/50 SAND & 4,969 LBS OF 20/40 RESIN COATED SAND. TOTAL PROP 20,021LBS.
						KILL PLG ) RIH W/ 44 1/2" WEATHERFORD 8K CONVERTABLECBP & SET @ 6,200'
						PUMP UP TO 4,500 PSI TO CONVERT CBP. CBP CONVERTED. FRACS COMPLETE. SWI SDFN
4/30/2008						
SUPERVISOR: M.	ARK BONNIE :00 -		33	Α		7 AM REPORT: CP 1500#, TP 0#, 20/64" CK, 50 BWPH, TRACE SAND, MED GAS TTL BBLS RECOVERED: 925 BBLS LEFT TO RECOVER: 14,434
5/1/2008						
SUPERVISOR: M	ARK BONNIF					
	:00 -		33	Α		7 AM REPORT: CP 1500#, TP 0#, 20/64" CK, 45 BWPH, TRACE SAND, MED GAS TTL BBLS RECOVERED: 2185 BBLS LEFT TO RECOVER: 13,174
13	3:00 -	PROD				WELL TURNED TO SALES @ 1300 HR ON 5/01/2008 - FCP 1600#, TP N/A, 20/64" CK, 320MCFD, 960 BWPD
5/2/2008						
SUPERVISOR: M	IARK BONNIE ':00 -		33	А		7 AM REPORT: CP 1550#, TP 0#, 20/64" CK, 36 BWPH, TRACE SAND, 885 MCFD TTL BBLS RECOVERED: 3106
						BBLS LEFT TO RECOVER: 12,253

Wins No.: 95386	NBU	1022-13M2C	S API No.: 4304739488
EVENT INFORMATION:	EVENT ACTIVITY: COMPLETIC		REASON: MV - WHR PAD#2
	OBJECTIVE: DEVELOPMENT		DATE WELL STARTED/RESUMED:
•	OBJECTIVE2: ORIGINAL		Event End Status:
RIG OPERATIONS:	Begin Mobilization Rig On Locati	on Rig Charge	s Rig Operation Start Finish Drilling Rig Release Rig Off Location
Date Time Start-t		e Subco P/U	Operation
5/3/2008			
SUPERVISOR: MARK BO	ONNIE		•
7:00 -	33	Α	7 AM REPORT: CP 1600#, TP 0#, 20/64" CK, 30 BWPH, TRACE SAND, 1100 MCFD TTL BBLS RECOVERED: 3830 BBLS LEFT TO RECOVER: 11,529
5/4/2008			
SUPERVISOR: MARK BO	ONNIE		
7:00 -	33	Α	7 AM REPORT: CP 1600#, TP 0#, 20/64" CK, 30 BWPH, TRACE SAND, 1300 MCFD TTL BBLS RECOVERED: 4477 BBLS LEFT TO RECOVER: 10,882

	STATE OF UTAH  DEPARTMENT OF NATURAL RESOURCES  DIVISION OF OIL, GAS AND MINING													AMENDED REPORT FORM 8 (highlight changes)  5. LEASE DESIGNATION AND SERIAL NUMBER: STUO-08512-ST				
WELI	_ CON	MPLE	TION	OR F	RECO	MPL	ETIC	N RI	EPOR	RT AND	LOG		6. IF	INDIAN, AL	LOTTEE OR	TRIBE	NAME	
1a. TYPE OF WELL:			OIL C	] ;	GAS Z	]	DRY		отн	ER					GREEMENT 8910089			
b. TYPE OF WORK															and NUMBE			
	HORIZ. L	]	DEEP-		RE- ENTRY	]	DIFF. RESVR.		отн	ER				VBU 10	22-13M	2CS		
2. NAME OF OPERA		IL & G	AS ON	SHOR	E LP									130473				
3. ADDRESS OF OP 1368 S 1200			CITY <b>VE</b>	RNAL		STATE	UT	ZIP <b>84</b> 0	078		NUMBER: 5) 781-7	024			POOL, OR WI			
4. LOCATION OF WI AT SURFACE:	1552'F	SL, 12							Pe	r Dk	.Drev	iew			13 10			Ξ,
										r			12. (	COUNTY		13.	STATE	
AT TOTAL DEPTI					-			313	180	<u>ful</u>				INTAH				UTAH
14. DATE SPUDDED 10/29/2007			T.D. REAC 0/2007		16. DATE 5/1/2	COMPL 2008	ETED:	,	ABANDON	ED 🗌	READY TO P	RODUCE			ATIONS (DF, I B <b>7'GL</b>	RKB, R	(1, GL):	
18. TOTAL DEPTH:	MD 8,	,495 .241		19. PLUG	BACK T.D		8,450 8,196		20. IF I	MULTIPLE CO	OMPLETIONS	, HOW MAI	NY? *	21. DEPTH PLUG	G SET:	MD TVD		
22. TYPE ELECTRIC				•	-	-		, HI	>i	WAS DST	L CORED? RUN? NAL SURVEY	?	NO NO	<b>√</b>	s 🗍 (		analysis) report) copy)	
24. CASING AND LI	NER RECO	RD (Repo	rt all string	s set in w	eli)									<del></del>				
HOLE SIZE	SIZE/GI	RADE	WEIGH <sup>-</sup>	Γ (#/ft.)	TOP (	MD)	вотто	M (MD)		EPTH	CEMENT TY NO. OF SA		SLUF OLUME		CEMENT TO	P**	AMOUNT	PULLED
20"	14"	STL	36.	7#			4	0			28							
12 1/4"	9 5/8	J-55	32.3#					170			1050			$\longrightarrow$				
7 7/8"	4 1/2	I-80	11.	6#		-	8,4	195		· · · · · · · · · · · · · · · · · · ·	1560						· · · · ·	<del></del>
25. TUBING RECOR		H SET (MD	) PACI	KER SET (	MD)	SIZE	:	DEPTH	SET (MD)	PACKE	R SET (MD)	s	IZE	DE	PTH SET (MI	D)	PACKER S	SET (MD)
SIZE	DEFI	TIGET (NIC	, raci	(LIT OLI )	WID)			DEI II	TOET (IND	, mone	(1115)					1		
26. PRODUCING IN	TERVALS				<del></del>					27. PERFO	RATION REC	ORD						
FORMATION	NAME	TC	P (MD)	вотто	OM (MD)	TOP	(TVD)	вотто	M (TVD)	INTERVA	.L (Top/Bot - M	1D) S	IZE	NO. HOLE	S PEF	RFORA	TION STA	.TUS
(A) MESAVE	RDE	6	,456	8,	437					6,456	8,4	437 0	.36	366	Open	<b>/</b> ] s	queezed	<u> </u>
(B) WSM	DVI														Open	] s	queezed	
(C)															Open	] s	queezed	
(D)															Open	] s	queezed	
28. ACID, FRACTUR	RE, TREATI	MENT, CE	MENT SQL	EEZE, ET	C.													
DEPTH I	NTERVAL								AM	OUNT AND T	YPE OF MAT	ERIAL						
6456'-8437'			PM	P 15,3	59 BBI	S SL	ICK H	20 &	552,41	8# 30/5	0 SD							
29. ENCLOSED ATT	TACHMENT	rs:													30.	WELL	STATUS:	
	RICAL/MEC			O CEMENT	T VERIFICA	ATION	$\equiv$	GEOLOG CORE AN	IC REPOR	=	DST REPORT	CEP	DIREC	TIONAL SU	RVEY	F	PROI	)

(CONTINUED ON BACK)

JUN 0 9 2008

#### 31 INITIAL PRODUCTION

#### INTERVAL A (As shown in item #26)

5/1/2008 5/29/2008 24 RATES: → 0 2,476 360  CHOKE SIZE: TBG. PRESS. CSG. PRESS. API GRAVITY 26/64 0 1,000 BTU - GAS GAS/OIL RATIO 24 HR PRODUCTION OIL - BBL: GAS - MCF: WATER - BBL: INTERVAL B (As shown in item #26)  DATE FIRST PRODUCED: TEST DATE: HOURS TESTED: TEST PRODUCTION OIL - BBL: GAS - MCF: WATER - BBL: I	PROD. METHOD: FLOWING INTERVAL STATUS:
CHOKE SIZE: TBG. PRESS. CSG. PRESS. API GRAVITY BTU - GAS GAS/OIL RATIO 24 HR PRODUCTION OIL - BBL: GAS - MCF: WATER - BBL: RATES: $\rightarrow$ 0 2,476 360  INTERVAL B (As shown in item #26)  DATE FIRST PRODUCED: TEST DATE: HOURS TESTED: TEST PRODUCTION OIL - BBL: GAS - MCF: WATER - BBL: I	INTERVAL STATUS:
26/64 0 1,000 RATES: → 0 2,476 360  INTERVAL B (As shown in item #26)  DATE FIRST PRODUCED: TEST DATE: HOURS TESTED: TEST PRODUCTION OIL – BBL: GAS – MCF: WATER – BBL: I	
NTERVAL B (As shown in item #26)  DATE FIRST PRODUCED:   TEST DATE:   HOURS TESTED:   TEST PRODUCTION   OIL – BBL:   GAS – MCF:   WATER – BBL:   I	
DATE FIRST PRODUCED: TEST DATE: HOURS TESTED: TEST PRODUCTION OIL - BBL: GAS - MCF: WATER - BBL:	PROD
BATE I THOUGHT AND DOLD.	
RATES: →	PROD. METHOD:
CHOKE SIZE: TBG. PRESS. CSG. PRESS. API GRAVITY BTU – GAS GAS/OIL RATIO 24 HR PRODUCTION OIL – BBL: GAS – MCF: WATER – BBL: I RATES: →	INTERVAL STATUS:
INTERVAL C (As shown in item #26)	****
DATE FIRST PRODUCED: TEST DATE: HOURS TESTED: TEST PRODUCTION OIL − BBL: GAS − MCF: WATER − BBL: I RATES: →	PROD. METHOD:
CHOKE SIZE: TBG. PRESS. CSG. PRESS. API GRAVITY BTU – GAS GAS/OIL RATIO 24 HR PRODUCTION OIL – BBL: GAS – MCF: WATER – BBL: I RATES: →	INTERVAL STATUS:
INTERVAL D (As shown in item #26)	
DATE FIRST PRODUCED: TEST DATE: HOURS TESTED: TEST PRODUCTION RATES: → GAS - MCF: WATER - BBL: I	PROD. METHOD:
CHOKE SIZE: TBG. PRESS. CSG. PRESS. API GRAVITY BTU – GAS GAS/OIL RATIO 24 HR PRODUCTION COL – BBL: GAS – MCF: WATER – BBL: RATES: →	INTERVAL STATUS
32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.) SOLD	
33. SUMMARY OF POROUS ZONES (Include Aquifers):  34. FORMATION (Log) MARKERS:	
Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.	
Formation Top Bottom (MD) Descriptions, Contents, etc. Name (Me	Top leasured Depth)

35. ADDITIONAL REMARKS (Include plugging procedure)

4.144

6,452

6,452

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) SHEILA UPCHEGO

TITLE SENIOR LAND ADMIN SPECIALIST

SIGNATURE

WASATCH MESAVERDE

- This report must be submitted within 30 days of • completing or plugging a new well
  - drilling horizontal laterals from an existing well bore
  - recompleting to a different producing formation
- reentering a previously plugged and abandoned well

DATE

6/2/2008

- significantly deepening an existing well bore below the previous bottom-hole depth
- · drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to:

Utah Division of Oil, Gas and Mining 1594 West North Temple, Suite 1210

Box 145801

Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

<sup>\*</sup> ITEM 20: Show the number of completions if production is measured separately from two or more formations.

### **NBU 1022-13M2CS**

Measured		Drift	TRUE	N-S	E-W		CLOSURE			
Depth	Angle	Direction	Vertical	FT	FT	Section	Distance	Direction	Severity	
FT	Deg	Deg	Depth			FT	FT	Deg	Deg/100	
0		0	0					0		Surf Gyro
100		331.27	99.99	1.15				331.27		Surf Gyro
200		329.19	199.95	3.61	-2.04			330.5		Surf Gyro
300		337.12	299.9	6.33				331.63		Surf Gyro
400		337.04	399.85	9.34	-4.69	9.34		333.33	0.25	Surf Gyro
500		336.96	499.79	12.55	-6.05			334.25		Surf Gyro
600	1.75	332.89	599.73	15.52	-7.43	15.52	17.2	334.4		Surf Gyro
700		346.82	699.69	18.15	-8.43			335.09	0.47	Surf Gyro
800	1.25	359.74	799.67	20.51	-8.73	20.51	22.3	336.95	0.4	Surf Gyro
900	1.75	7.66	899.63	23.12	-8.53	23.12	24.64	339.74	0.54	Surf Gyro
1000	1.75	17.59	999.58	26.09	-7.87	26.09	27.25	343.22		Surf Gyro
1100	1.75	25.52	1099.54	28.92	-6.75	28.92		346.87	0.24	Surf Gyro
1200		25.45	1199.5	31.28	-5.62			349.81	0.5	Surf Gyro
1300	1.75	20.37	1299.47	33.7	-4.62	33.7	34.02	352.19	0.52	Surf Gyro
1400	2.25	12.91	1399.41	37.05	-3.65	37.05	37.22	354.37		Surf Gyro
1500	2.25	11.83	1499.33	40.88	-2.81	40.88	40.98	356.07	0.04	Surf Gyro
1600	1.75	12.76	1599.27	44.29	-2.07	44.29	44.34	357.32	0.5	Surf Gyro
1700	0.75	13.7	1699.24	46.42	-1.58	46.42	46.44	358.05	1	Surf Gyro
1800	0.25	24.62	1799.24	47.25	-1.33	47.25	47.27	358.39	0.51	Surf Gyro
1900	0	0	1899.24	47.45	-1.24	47.45	47.46	358.5	0.25	Surf Gyro
1970	0.25	187.37	1969.24	47.3	-1.26	47.3	47.31	358.47	0.36	Surf Gyro
MD		Azi			E/W	Vs			Turn	
2,168		188.93	2,167.99	45.694	-1.5	-27.951	0.222	0.222		MWD
2,231		202.18	2,230.97	44.016	-2.091	-26.428		2.968	21.032	
2,294		213.3	2,293.80	40.161	-4.298	-22.271	4.901	4.762	17.651	
2,357		218.43	2,356.44	34.761	-8.234	-15.796		1.698	8.143	
2,420		224.93	2,418.93	28.785	-13.614	-7.842		2.27	10.317	
2,484		228.55	2,482.12	21.882	-21.002	2.25		3.234		MWD
2,547		225.8	2,543.97	13.742	-29.754	14.182		2.571	-4.365	
2,610		226.93	2,605.45	4.269	-39.702	27.885		2.683		MWD
2,673		225.55	2,666.51	-6.463	-50.894	43.349	2.627	2.571		MWD
2,736		228.55	2,727.22	-17.921	-63.222	60.151	1.889	1.397	4.762	
2,799		228.93	2,787.65	-29.678	-76.626	77.972	1.596	1.587		MWD
2,863		227.08	2,848.84	-42.222	-90.557	96.702	0.897	0.297	-2.891	
2,926			2,908.94	-54.613		115.599	2.128	1.079	6.111	
2,989			2,968.77		-119.894	135.324		1.397	-3.571	
3,052		228.68	3,028.20		-135.59	156.214		2.175		MWD
3,116		228.3	3,087.94			179.135		2.937	-0.594	
3,179		227.05		-112.893		203.659		3.175	-1.984	
3,243		227.18		-130.826	-190.217	229.967		1.172	0.203	
3,305		226.43		-148.318	-208.85	255.473		-1.113		MWD
3,368		226.3		-166.453	-227.87	281.687		2.079	-0.206	
3,432		225.43	-	-185.707		309.247		0.891	-1.359	
3,495		226.3		-205.556		337.668		3.27		MWD
3,558		229.8		-225.826	-290.77	367.995		2.778		MWD
3,621		231.43	•	-245.681		399.287		0.302	2.587	
3,684		230.05	3,596.86			429.889		-2.587		MWD
3,748		226.8		-284.882		459.783		-1.172	-5.078	
3,811		228.18	-	-305.386		490.105		4.175		MWD
3,874	30.94	227.8	3,762.90	-326.808	-407.214	522.083	1.322	1.286	-0.603	MWD

3,938	29.31	226.05	3,818.25	-348.734	-430.682	554.141	2.893	-2.547	-2.734 MWD
4,001	29.06	225.68	3,873.25	-370.126	-452.731	584.764	0.489	-0.397	-0.587 MWD
4,064	28.94	227.43	3,928.36	-391.128	-474.903	615.234	1.36	-0.19	2.778 MWD
4,127	28.75	228.55	3,983.54	-411.469	-497.485	645.599	0.909	-0.302	1.778 MWD
4,191	28.38	228.55	4,039.75	-431.726	-520.422	676.184	0.578	-0.578	0 MWD
4,254	27.25	228.3	4,095.47		-542.414	705.563	1.803	-1.794	-0.397 MWD
4,317	26.44		4,151.68		-563.513	733.983	1.429	-1.286	-1.381 MWD
4,380	25.69		4,208.27			761.626	1.19	-1.19	0 MWD
4,444	25.13		4,266.08		-604.021	789.042	0.972	-0.875	-0.984 MWD
4,506	24.13		4,322.44			814.819	1.666	-1.613	-1 MWD
4,569	23.88		4,379.99			840.414	2.294	-0.397	5.556 MWD
4,632	23.19	229.93	•		-660.992	865.568	1.107	-1.095	0.397 MWD
4,695	22.63	230.43				890.093	0.941	-0.889	0.794 MWD
4,759	22.00	229.8			-698.476	914.393	1.053	-0.984	-0.984 MWD
4,822	21.50	227.68	4,613.51		-716.025	937.724	1.478	-0.794	-3.365 MWD
4,885	20.75	226.68	4,672.27		-732.681	960.392	1.321	-1.19	-1.587 MWD
4,949	20.73	226.43	4,732.18		-749.026	982.853	0.503	-0.484	-0.391 MWD
5,012	19.81	229.3	4,791.34		-765.09	1,004.50	1.859	-1	4.556 MWD
			4,851.60		-781.45	1,004.56	0.397	-0.391	0.203 MWD
5,076	19.56				-797.018	1,026.00	2.327	-0.391	1.587 MWD
5,139	18.13	230.43				•			
5,202	17.69		4,971.16		-811.885	1,065.78	0.763	-0.698	-1 MWD
5,266	17.38	229.8		-703.064		1,085.06	0.484	-0.484	0 MWD
5,329	16.25	228.93		-714.929		1,103.28	1.838	-1.794	-1.381 MWD
5,392	14.94	228.55		-726.096		1,120.21	2.086	-2.079	-0.603 MWD
5,456	14.31	227.93		-736.857		1,136.36	1.014	-0.984	-0.969 MWD
5,519	13.75	227.8		-747.103		1,151.61	0.89	-0.889	-0.206 MWD
5,582	13.45	226.79		-757.149		1,166.40	0.607	-0.476	-1.603 MWD
5,646	13.31	227.43	•	-767.229	-898.296	1,181.19	0.318	-0.219	1 MWD
5,709	11.94	225.55	5,461.19		-908.29	1,194.93	2.27	-2.175	-2.984 MWD
5,772	10.38	231.3	5,523.00			1,207.10	3.039	-2.476	9.127 MWD
5,836	10.25	232.18	5,585.97	-791.908	-926.37	1,218.55	0.319	-0.203	1.375 MWD
5,899	9.19	232.68	5,648.06	-798.396	-934.799	1,229.18	1.688	-1.683	0.794 MWD
5,962	8.56	234.8	5,710.31	-804.148	-942.631	1,238.88	1.127	-1	3.365 MWD
6,025	7.38	235.3	5,772.70	-809.155	-949.789	1,247.59	1.876	-1.873	0.794 MWD
6,088	5.75	234.05	5,835.28	-813.311	-955.671	1,254.77	2.597	-2.587	-1.984 MWD
6,152	5.38	232.05	5,898.98	-817.038	-960.632	1,260.97	0.653	-0.578	-3.125 MWD
6,214	4.69	240.43	5,960.74			1,266.37	1.624	-1.113	13.516 MWD
6,278	3.5	242.05	6,024.58		-969.13	1,270.86	1.868	-1.859	2.531 MWD
6,341	3.06		6,087.48			1,274.42	0.826	-0.698	-7.73 MWD
6,404	2.25		6,150.41			1,277.31	1.287	-1.286	1.19 MWD
6,468	1.06		6,214.38		-976.352	1,279.07	2.094	-1.859	35.984 MWD
6,531	1.06	280.68			-977.5	1,279.94	0.576	0	31.302 MWD
6,594			6,340.36			1,280.73	0.601	-0.286	-31.556 MWD
•	0.88	260.8			-979.385		0.001	-0.200	-47.453 MWD
6,658	0.81	230.43	6,404.35	-826.744	-313.303	1,281.61	0.7	-0.103	TI.TUD IVIVU
Last Survey (	-		6,404.35	926 744	070 295	1,281.61	0.7	-0.109	-47.453 MWD
6,658	0.81	230.43	0,404.33	-020.744	-919.303	1,201.01	0.7	-0.103	TI.TUD WIVU

Measured	Incl	Drift	TRUE			Vertical	CLOSURE	CLOSURE	Dogleg
Depth	Angle	Direction	Vertical	N-S	E-W	Section	Distance	Direction	Severity
FT	Deg	Deg	Depth	FT	FT	FT	FT	Deg	Deg/100
6700	0.5	196.29	6446.35	-827.11	-979.67	1280.07	1282.13	229.83	1.16 Btm Gyro
6800	0.25	256.4	6546.35	-827.58	-980	1280.64	1282.69	229.82	0.43 Btm Gyro
6900	0.75	181.51	6646.34	-828.28	-980.23	1281.29	1283.32	229.8	0.73 Btm Gyro
7000	1.25	151.61	6746.33	-829.89	-979.73	1282.03	1283.98	229.73	0.71 Btm Gyro
7100	1.25	151.72	6846.3	-831.81	-978.7	1282.6	1284.43	229.64	0 Btm Gyro
7200	1.5	150.83	6946.27	-833.92	-977.54	1283.21	1284.92	229.53	0.25 Btm Gyro
7300	1.75	155.46	7046.23	-836.45	-976.27	1284.03	1285.59	229.41	0.28 Btm Gyro
7400	1.25	138.58	7146.2	-838.66	-974.91	1284.56	1286	229.3	0.66 Btm Gyro
7500	1.25	142.69	7246.18	-840.34	-973.53	1284.71	1286.06	229.2	0.09 Btm Gyro
7600	1	150.79	7346.16	-841.97	-972.44	1285.04	1286.3	229.11	0.3 Btm Gyro
7700	1.5	157.89	7446.13	-843.95	-971.53	1285.73	1286.9	229.02	0.52 Btm Gyro
7800	1.75	154	7546.09	-846.53	-970.36	1286.66	1287.72	228.9	0.27 Btm Gyro
7900	1.25	128.12	7646.06	-848.58	-968.84	1286.96	1287.92	228.79	0.83 Btm Gyro
8000	1.75	133.22	7746.02	-850.3	-966.87	1286.71	1287.57	228.67	0.52 Btm Gyro
8100	1.75	114.34	7845.98	-851.97	-964.36	1286.04	1286.8	228.54	0.57 Btm Gyro
8200	1.5	128.49	7945.94	-853.41	-961.95	1285.28	1285.95	228.42	0.47 Btm Gyro
8300	1.75	128.7	8045.9	-855.18	-959.73	1284.89	1285.47	228.3	0.25 Btm Gyro
8365	1.75	116.91	8110.87	-856.25	-958.07	1284.42	1284.94	228.21	0.55 Btm Gyro

•

Sundry Number: 24112 API Well Number: 43047394880000

	FORM 9					
ι	5.LEASE DESIGNATION AND SERIAL NUMBER: STUO-08512-ST					
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:					
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES					
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-13M2CS			
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		<b>9. API NUMBER:</b> 43047394880000			
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 8021	<b>PHONE NUMBER:</b> 7 3779 720 929-0	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1552 FSL 1289 FWL			COUNTY: UINTAH			
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NWSW Section:	HP, RANGE, MERIDIAN: 13 Township: 10.0S Range: 22.0E Mer	idian: S	STATE: UTAH			
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA			
TYPE OF SUBMISSION		TYPE OF ACTION				
7	ACIDIZE	ALTER CASING	CASING REPAIR			
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME			
3/23/2012	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE			
SUBSEQUENT REPORT	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION			
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK			
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	✓ RECOMPLETE DIFFERENT FORMATION			
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON			
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL			
☐ DRILLING REPORT	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION			
Report Date:	WILDCAT WELL DETERMINATION	OTHER	OTHER:			
12 DESCRIBE PROPOSED OR	COMPLETED OPERATIONS. Clearly show	all pertinent details including dates	lenths volumes etc			
The operator requests authorization to recomplete the subject well. The operator requests approval to recomplete the Wasatch formation. The operator will commingle the Wasatch and the Mesaverde formations.  Please see the attached procedure. Thank you.  Approved by the Utah Division of Oil, Gas and Mining  Date: March 29, 2012						
NAME (PLEASE PRINT) Jaime Scharnowske	<b>PHONE NUME</b> 720 929-6304	BER TITLE Regulartory Analyst				
SIGNATURE N/A		DATE 3/23/2012				

Sundry Number: 24112 API Well Number: 43047394880000

### Greater Natural Buttes Unit



## NBU 1022-13M2CS RE-COMPLETIONS PROCEDURE

DATE: 03/20/2012

AFE#:

API#: 4304739488

**USER ID: WIU473** (Frac Invoices Only)

**COMPLETIONS ENGINEER:** Patricia Cuba, Denver, CO

(720) 929-6348 (Office) (303) 601-7259 (Cell)

SIGNATURE:

**ENGINEERING MANAGER: JEFF DUFRESNE** 

SIGNATURE:

### REMEMBER SAFETY FIRST!

RECEIVED: Mar. 23, 2012

Sundry Number: 24112 API Well Number: 43047394880000

Name: NBU 1022-13M2CS

Location: SW NW SW SW Sec 13 T10S R22E

**LAT: 39.945911 LONG: -109.393019 COORDINATE:** *NAD83 (Surface Location)* 

**Uintah County, UT** 

Date: 03/20/2012

**ELEVATIONS:** 5287' GL 5306' KB Frac Registry TVD: 8241'

**TOTAL DEPTH:** 8495' **PBTD:** 8450'

**SURFACE CASING:** 9 5/8", 36# J-55 LT&C @ 104'

9 5/8", 32# H-40 LT&C @ 104-1729' 9 5/8", 36# J-55 LT&C @ 1729-2150'

**PRODUCTION CASING:** 4 1/2", 11.6#, I-80 LT&C @ 8495'

Marker Joint 3910'-3930'

#### **TUBULAR PROPERTIES:**

	BURST	COLLAPSE	DRIFT DIA.	CAPACITIES	
	(psi)	(psi)	(in.)	(bbl/ft)	(gal/ft)
2 3/8" 4.7# J-55	7,700	8,100	1.901"	0.00387	0.1624
tbg					
4 ½" 11.6# I-80	7780	6350	3.875"	0.0155	0.6528
(See above)					
2 3/8" by 4 ½"				0.0101	0.4227
Annulus					

#### TOPS: BOTTOMS:

1034' Green River Top

1284' Bird's Nest Top

1676' Mahogany Top

4144' Wasatch Top

6423' Mesaverde Top 8495' Mesaverde Bottom (TD)

6423' Wasatch Bottom

\*Based on latest geological interpretation

**T.O.C.** @ 310' from Cutters CBL 03/15/2008

**Hydraulic Isolation** @ 930'

\*\*Based on latest interpretation of CBL

#### **GENERAL**:

- A minimum of 6 tanks (cleaned lined 500 bbl) of recycled water will be required. Note: Use biocide in tanks and the water needs to be at least 45°F at pump time.
- All perforation depths are from Bakers Induction-Density-Neutron log dated 12/20/2007
- 3 fracturing stages required for coverage.
- Procedure calls for 4 CBP's (8000 psi).
- Calculate open perforations after each breakdown. If less than 60% of the perforations appear to be open, ball out with 15% HCl.
- Pump scale inhibitor at 3 gpt (in pad and until 1.25 ppg ramp up is reached) and 10 gpt in all flushes except the final stage. Remember to pre-load the casing with scale inhibitor for the very first stage with 10 gpt.
- 30/50 mesh Ottawa sand, **Slickwater frac**.

2

- Maximum surface pressure **6200** psi.
- If casing pressure test fails. MIRU with tubing and packer. Isolate leak by pressure testing above and below the packer. RIH and set appropriate casing leak remediation (specific details on remediation will be provided in post-job-report). Re-pressure test to 1000 and 3500 psi for 15 minutes each and to 6200 psi for 30 minutes.
- Flush volumes are the sum of slick water and acid used during displacement (include scale inhibitor as mentioned above). Stage acid and scale inhibitor if necessary to cover the next perforated interval.
- Call flush at 0 PPG @ inline densiometers. Slow to 5 bbl/min over last 10-20 bbls of flush. Flush to top perf.
- If distance between plug and top perf of previous stage is less than 50', it is considered to be tight spacing over flush stage by 5 bbls (from top perf)
- Tubing Currently Landed @~8298'
- Originally completed on 04/23/2008

#### **Existing Perforations:**

PERFORATIONS							
<u>Formation</u>	Zone	<u>Тор</u>	<u>Btm</u>	<u>spf</u>	<b>Shots</b>	<u>Date</u>	Reason
MESA VERDE		6456	6466	4	40	04/21/2008	PRODUCTION
MESA VERDE		6638	6644	4	24	04/21/2008	PRODUCTION
MESA VERDE		6658	6662	4	16	04/21/2008	PRODUCTION
MESA VERDE		6789	6794	4	20	04/21/2008	PRODUCTION
MESA VERDE		6826	6831	4	20	04/21/2008	PRODUCTION
MESA VERDE		7026	7034	3	24	04/21/2008	PRODUCTION
MESA VERDE		7056	7060	4	16	04/21/2008	PRODUCTION
MESA VERDE		7165	7168	4	12	04/21/2008	PRODUCTION
MESA VERDE		7215	7222	4	28	04/21/2008	PRODUCTION
MESA VERDE		7365	7368	3	9	04/21/2008	PRODUCTION
MESA VERDE	₽,	7426	7430	4	16	04/21/2008	PRODUCTION
MESA VERDE	Ť	7493	7498	4	20	04/21/2008	PRODUCTION
MESA VERDE		7817	7820	3	9	04/21/2008	PRODUCTION
MESA VERDE		7938	7942	3	12	04/21/2008	PRODUCTION
MESA VERDE		8003	8008	4	20	04/21/2008	PRODUCTION
MESA VERDE		8157	8160	4	12	04/21/2008	PRODUCTION
MESA VERDE		8193	8200	4	28	04/21/2008	PRODUCTION
MESA VERDE		8371	8374	4	12	04/21/2008	PRODUCTION
MESA VERDE		8430	8437	4	28	04/21/2008	PRODUCTION

#### **Relevant History:**

04/23/2008: Originally completed with 9 frac stages of Upper Mesaverde with 644,868 gal of

Slickwater and 504,571 lbs of 30/50 Ottawa sand and ~ 44,847 lbs of 30/50 resin

coated sand.

#### 03/14/2011: Slickline Report:

Travel to location rig up went in with jdc stacked out at 8143 beat down latch on plunger came out had a viper plunger went back in latch on spring hit oil jars 3 broke loose came out had a standard spring put on bailer run T.D stacked out at 8298 beat down came out bailer had some sand scratch and brouch tubing had some scale and sand came out 1.90 brouch was clean plunger was good standard spring had some scale clean spring drop standard spring and a new viper plunger chase to bottom came out rig down travel to next location.

## FLUID LEVEL7800SEAT NIPPLE DEPTH8143 SN TYPEXTD (Max Depth)8298'

#### JOB DETAILS

SPRING AND/OR PRODUTION TOOL DETAIL
Spring OutUsed-StandardSpring InUsed-Standard
Stuck SpringYes, stuck but able to latch onCorrosion on SpringNo
Bailed AcidNo
Broken SpringNoScale on SpringYes
Production ToolsNoneDepth of Tool
Other HardwareNone

#### PLUNGER DETAIL

Stuck PlungerYes, stuck but able to latch onCorrosion on PlungerNo Broken PlungerNoScale on PlungerNo

#### **SOLIDS DETAIL**

Tight SpotsNoneSeverity of TrashLight Solid sample to turn inYesSolid Sample SourceTubing Speculated Type of SolidIron SulfideSpeculated Depth of Solid

## LOST SLICKLINE TOOLS Slickline Tools LostNoDepth of Tool

## **H2S History:**

Production Date	Gas (avg mcf/day)	Water (avg bbl/day)	Oil (avg bbl/day)	LGR (bbl/Mmcf)	Max H2S Seperator (ppm)
4/30/2008	0.00	0.00	0.00	#NA	
5/31/2008	1581.55	429.68	0.00	271.68	
6/30/2008	1838.43	251.20	28.67	152.23	
7/31/2008	839.42	38.87	13.97	62.95	
8/31/2008	1186.29	38.87	14.81	45.25	
9/30/2008	1044.43	38.87	16.57	53.08	
10/31/2008	897.23	44.16	2.71	52.24	
11/30/2008	748.77	64.63	2.23	89.30	
12/31/2008	688.32	60.77	1.94	91.11	
1/31/2009	671.58	48.52	3.26	77.09	
2/28/2009	590.68	43.25	3.29	78.78	
3/31/2009	626.42	47.71	3.35	81.52	20.0
4/30/2009	567.87	45.70	2.83	85.47	56.0
5/31/2009	527.03	58.19	0.03	110.48	50.0
6/30/2009	501.83	46.17	0.00	92.00	12.0
7/31/2009	421.55	46.16	0.00	109.50	26.0
8/31/2009	436.77	35.68	0.00	81.68	7.0
9/30/2009	437.17	32.47	0.00	74.27	10.0
10/31/2009	394.68	43.26	0.00	109.60	138.0
11/30/2009	405.07	144.07	0.00	355.66	35.0
12/31/2009	357.81	41.94	0.00	117.20	54.0
1/31/2010	371.35	82.29	0.00	221.59	55.0
2/28/2010	367.61	32.75	0.00	89.09	88.0
4/30/2010	323.70	16.70	0.00	51.59	90.0
5/31/2010	324.03		0.00	47.09	2.0
6/30/2010	371.93		0.00	54.22	50.0
7/31/2010	349.94	17.42	0.00	49.78	60.0
8/31/2010	275.87	7.35	0.00	26.66	38.0
9/30/2010	257.97	9.10	0.00	35.28	38.0
10/31/2010	347.00	22.13	0.00	63.77	62.0
11/30/2010	298.03		0.00	71.47	
12/31/2010	286.81	21.03	0.00	73.33	66.0
1/31/2011	247.52	18.97	0.00	76.63	115.0
2/28/2011	283.93		0.00	75.09	
3/31/2011	249.71	21.32	0.00	85.39	43.0
4/30/2011	244.43		0.00	85.23	92.0
5/31/2011	239.23		0.00	80.50	42.0
6/30/2011	264.80		0.00	135.95	44.0
7/31/2011	245.42		4.45	126.97	40.0
8/31/2011	238.13		8.77	90.90	43.0
9/30/2011	218.77		7.63	92.18	48.0
10/31/2011	227.45		8.71	95.45	136.0
11/30/2011	183.87		7.23	95.00	57.0
12/31/2011	177.58		7.61	111.17	115.0
1/31/2012	164.81	11.00	6.58	106.67	118.0
2/29/2012	190.03		8.62	113.59	109.0

# <u>PROCEDURE</u>: (If using any chemicals for pickling tubing or H2S Scavenging, have MSDS for all chemicals prior to starting work.)

- 1. MIRU. Control well with recycled water and biocide as required. ND WH, NU BOP's and test.
- 2. The tubing is below the proposed CBP depth, TOOH with 2-3/8", 4.7#, J-55 (or N-80) tubing (currently landed at ~8298'). Visually inspect for scale and consider replacing if needed.
- 3. If the looks ok consider running a gauge ring to 6415' (50' below proposed CBP). Otherwise P/U a mill and C/O to 6415' (50' below proposed CBP).
- 4. Set 8000 psi CBP at ~ 6365'. ND BOPs and NU frac valves. Test frac valves and casing to 1000 and 3500 psi for 15 minutes each and to 6200 psi for 30 minutes; if pressure test fails contact Denver engineer and see notes. As per standard operating procedure install steel blowdown line to reserve pit from 4-1/2" X 9-5/8" annulus. Lock **OPEN** the Braden head valve. Annulus will be monitored throughout stimulation. If release occurs, stimulation will be shut down. Well conditions will be assessed and actions taken as necessary to secure the well. UDOGM will be notified if a release to the annulus occurs.
- 5. Perf the following with 3-3/8" gun, 23 gm, 0.36"hole:

Zone	From	To	spf	# of shots
WASATCH	6300	6305	3	15
WASATCH	6312	6315	3	9

- 6. Breakdown perfs and establish injection rate (<u>include scale inhibitor in fluid</u>). Spot 250 gals of 15% HCL and let soak 5-10 min. Fracture as outlined in Stage 1 on attached listing. Under-displace to ~6300' and trickle 250gal 15% HCL w/ scale inhibitor in flush.
- 7. Set 8000 psi CBP at ~5989'. Perf the following 3-3/8" gun, 23 gm, 0.36"hole:

Zone	From	To	spf	# of sho
WASATCH	5778	5779	3	3
WASATCH	5794	5796	3	6
WASATCH	5955	5959	3	12

- 8. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 2 on attached listing. Under-displace to ~5778' and trickle 250gal 15% HCL w/ scale inhibitor in flush.
- 9. Set 8000 psi CBP at ~5656'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone	From	To	spf	# of shots
WASATCH	5424	5426	3	6
WASATCH	5493	5495	3	6
WASATCH	5623	5626	3	9

- 10. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 3 on attached listing. Under-displace to ~5424' and flush only with recycled water.
- 11. Set 8000 psi CBP at~5374'.

- 12. ND Frac Valves, NU and Test BOPs.
- 13. TIH with 3 7/8" mill, pump open sub, XN nipple and tubing.
- 14. Mill 3 plugs and clean out to a depth of 6335'.
- 15. Land tubing at 6270', drop ball and pump open sub. Flow back completion load. RDMO
- 16. MIRU, POOH tbg and mill. TIH with POBS and mill.
- 17. Mill last plug @ 6365' clean out to PBTD at 8450'. Land tubing at  $\pm 8298$ ' pump off bit and bit sub. This well WILL be commingled at this time.
- 18. Clean out well with foam and/or swabbing unit until steady flow has been established from completion.
- 19. Leave surface casing valve open. Monitor and report any flow from surface casing. RDMO

For design questions, please call Patricia Cuba, Denver, CO (720) 929-6348 (Office) (303) 601-7259 (Cell)

For field implementation questions, please call Jeff Samuels, Vernal, UT (435)-781-7046 (Office)

#### NOTES:

- If using any chemicals for pickling tubing or H2S Scavenging, have MSDS for all chemicals prior to starting work
- Verify that the Braden head valve is locked OPEN.

Service Company S	upplied C	hemicals - Job	l otals	
Friction Reducer	48	gals @	0.5	GPT
Surfactant	95	gals @	1.0	GPT
Clay Stabilizer	48	gals @	0.5	GPT
15% Hcl	750	gals @	250	gal/stg
Iron Control for acid	4	gals @	5.0	GPT of acid
Surfactant for acid	2	gals @	2.0	GPT of acid
Corrosion Inhibitor for acid	3	gals @	4.0	GPT of acid

Third Party Supplied Chemicals Job	Totals -	Include Pumping	g Charge if A <sub>l</sub>	<u>oplicable</u>
Scale Inhibitor	277	gals pumped	per schedule	above
Biocide	29	gals @	0.3	GPT

Peris   Copy to mark book   Peris	Production	9 6	Enter 1 if running a Droduction Log	for recomplet				
Perfs   Perfs   Rub   Type   Ppg		0	Enter Number of DFITs					
Sample   Top, ft   Bot., ft   SpP   Hoke   BPM   Type   ppg   pp	Final Fluid	Cum Vol Volume	Cum Vol		Sand Sand		Cum. Sand Footage from	Scale Inhib.,
# of Perfection   15   15   15   15   15   15   15   1	bdd	gals BBLs	BBLs	% of frac %	% of frac lbs	sql	CBP to Flush	gal.
# of Period Stage 24		3 4 113 98	98					
## Of Perfecting  ## Of Perfec		)						39
# of Perfection 1	Slickwater	7,940		15.0%	%0:0			Ξ 8
# Of Perfétage 24	1 Slickwater	20,699			37.3% 7.974			89 0
# of Perfs4age 24  16.1 < Above pump tine (min) 5778 5770 3 Varied Pump-in test 5794 5780 3 12 Solickwater Pad 5 min ISDP 56.5 Sickwater Pad 5 min ISDP 57.5 5780 3 Varied Pump-in test 57.5 58.5 Sickwater Pad 5 min ISDP 56.5 Sickwater Pad 5 min ISDP 57.5 58.5 Sickwater Pad 5 min ISDP 57.5 58.5 Sickwater Pad 5 min ISDP 58.5 Sickwater Pad 5 Sickwater	Slickwater	33,743 98	803			21,371		0 0
# of Peristange 24  16.1 <a #"="" href="https://docesia.com/red-red-red-red-red-red-red-red-red-red-&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;0&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;# of Peris stage 24  # of Peris stage 27  # of Peri&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;24 974&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;0 0&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;# of Perif stage 24&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;33 743&lt;/td&gt;&lt;td&gt;803&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;1,6,12&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;9 6&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;# of Perfstage 24  16.1 &lt;a href="></a>								128
# of Perfstage 24  16.1								
# of Perifstage 24  16.1 < - Abose pump time (min)  5778 5779 3 3 Valled Pump-in test 578 5779 3 12 S G Sickwater Ramp 50 Sickwater Ramp 50 Sickwater Ramp 50 Sickwater Ramp 70 Sickwater 50 Sickwater Ramp 71.9	Sond lades Valume	25 518						
# of Periodange 24  16.1		)		ga	gal/md-ft 25,0	20,938	lbs sand/md-ft	
# 60 Form   16.1			Flush depth	6300	CBP dep	CBP depth 5,989 311	311	
5778   5779   53   Valide   Purplin last								
# of Perfections   2   0   0   0   0   0   0   0   0   0	Slickwater	0	0					
# of Peristage 21  # of Peristage 22  # of Peristage 24  # of Peristage 24  # of Peristage 24  # of Plank (Ling)  # of Peristage 24  # of Plank (Ling)  # of Plank (Ling)  # of Peristage 24  # of Plank (Ling)  # of Peristage 24  # of Peristage 25  # of Peristage 24  # of Peristage 25  # of Peristag		3 184			%00	0		10
# Of Perfsdage 21   Sickwater Ramp   1   2   Silickwater	1 Slickwater	13,798		20.0%	37.3% 6.6	9.9		32
# For Perify Stage 21   Sinckwater   Sinckwa	2 Slickwater	771 21,228 177	7 505		62.7% 11,145			0
# of Perifstage 21  11.9		25,000				17,779		0
# of Perfstage 21  1.1.9	Slickwater							0 0
# 01 Perfs dage 21  11.9 <						17.779		0
# of Perfestage 21  11.9 < Above pump time (min)  5424 5426 3 6 Varied Pump-in test 5423 5426 3 6 Varied Pump-in test 5433 5426 3 9 50 Sickwater Ramp 5623 5526 3 9 50 Sickwater Ramp 50 Sickwater Ramp 7 2 Silickwater 50 Flush (4-12) 51SP and 5 min ISDP 7 Silickwater 51SP and 5 min ISDP 7 Silickwater 7 Silickwater 8 Silickwater 8 Silickwater 9 Silickwater 1 2 Silickwater 1 3 Silickwater 2 Silickwater 3 Silickwater 3 Silickwater 3 Silickwater 3 Silickwater 3 Silickwater 3 Silickwater 4 Silickwater 5 Silickwater 6 Silickwater 7 Silickwater 8 Silickwater 8 Silickwater 8 Silickwater 8 Silickwater 9 Silickwa		25,000 90	595					37
# of Perify stage 21  11.9								78
# of Perfs stage 21  11.9 < Above pump time (min)  5.424 5.426 3 6 Varied Pump-in test 5.424 5.426 3 6 Varied Pump-in test 5.425 5.426 3 6 O Sickwater Pard 5.426 5.426 3 6 O Sickwater Pard 5.426 5.426 3 6 O Sickwater Pard 5.426								
# of Perfs stage 21  11.9 < Above pump time (min)  5.424 5.426 3 6 Varied Pump-in test 5.423 5.426 3 6 O Sickwater Pard 5.426 1 Silickwater 5.632 5.626 3 6 Sickwater Ramp 0.0.25 1 Silickwater 5.6 Sickwater Ramp 1 2 Silickwater 5.6 Flush Line SPP 1 Silickwater 5.6 Flush Line SPP 1 Silickwater 5.7 Silickwater SILICkwater 5.8 Silickwater SILICkwater 5.9 Flush Line SPP 1 Silickwater 5.1 Silickwater 5.1 Silickwater 5.2 Silickwater 5.3 Silickwater 5.4 Silickwater 5.5 Flush Line SPP 1 Silickwater	Sand laden Volume	21,228						
## of Perifs Stage 21  11.9 <			i	į	gal/md-ft 91,936 7	36 76,997	lps s	
5424   5426   3   6   Variot   Pumpin terms   Silickwater			Flush depth	9//9	CBP dep	9696	122	
5483         5495         3         6         0   SIP and 5 min ISP         SIIIckwater Brown         562         3         9   SIIIckwater Brown         1         2         SIIIckwater Brown         1         2         SIIIckwater Brown         1         2         SIIIckwater Brown         3         SIIIckwater Brown         1         2         SIIIckwater Brown         3         3         SIIIckwater Brown         3         3         3         3         <	Slickwater	0	0					
5623								
# Or Perfs/agg 21   Silckwater	Slickwater	5,457						16
# of Perfstage 21 (Above pump time (mr))	1 Slickwater	36.377 303	3 563	50.0% 35.0%	37.3% 11,368	30 11,368		ရှိ င
# of Perfessage 21 (SDP and 5 min ISDP Slickwater Sinckwater 19.0 << Above pump time (min)	Slickwater	39,918						0
# of Perfessage 21 19.0 << Above pump time (min)								0
# of Perfessage 21 (9.0 << Above pump time (min)						-		0
# of Peris/stage 21 Sand laden Volume		00000	050			30,466		0 0
# of Perfestage 21 Sand laden Volume (min)								27
# of Perfestage 21 19.0 << Above pump time (min)								
# # # # # # # # # # # # # # # # # # #								
#01 Perind Stage 21 19.0 << Above pump time (min)	Sand laden Volume	36,377					-:	
19.0 << Above pump time (min)			Flush denth 5424		gal/md-ft 19,000	5 374	15,913 lbs sand/md-ft	
					<u> </u>			
Totals 66 Total Fluid	Total Fluid	l 98,661 gals	2,349 bbls	slqq	Total Sand	od 69,616		
		2,349 bbls						

Name NBU 1022-13M2CS Perforation and CBP Summary

		Per	forations					
Stage	Zones	Top, ft	Bottom, ft	SPF	Holes	Frac	ture Covera	ige
1	WASATCH	6300	6305	3	15	6287	to	6332.5
	WASATCH	6312	6315	3	9	6287	to	6332.5
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	# of Perfs/stage				24	CBP DEPTH	5,989	
							. 1	
2	WASATCH	5778	5779	3	3	5774.5	to	5782.5
	WASATCH	5794	5796	3	6	5787	to	5801.5
	WASATCH	5955	5959	3	12	5940	to	5962.5
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	# of Perfs/stage				21	CBP DEPTH	5,656	
3	WASATCH	5424	5426	3	6	5415.5	to	5445
	WASATCH	5493	5495	3	6	5488.5	to	5502.5
	WASATCH	5623	5626	3	9	5621	to	5627.5
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	WASATCH							
	# of Perfs/stage				21	CBP DEPTH	5,374	
	Totals				66			

Measured Depth FT 0 100 200 300 400 500 600 700 1100 1200 1300 1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	Incl Angle Deg 0 1.5 1.75 1.75 1.75 1.5 1.75 1.75 1.75 1	Drift Direction Deg 0 331.27 329.19 337.12 337.04 336.96 322.89 346.82 359.74 7.66 17.59 25.52 25.55 20.37 12.91 11.83 12.76 13.77 24.62 0 187.37 Azi	TRUE Vertical Depth 0 99.99 199.95 299.9 399.85 499.79 699.67 899.63 999.58 1099.54 1199.54 1499.32 1699.24 1799.24 1899.24	N-S FT 0 1.15 3.61 6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7 37.05 40.88 44.29	-0.63 -2.04 -3.42 -4.69 -6.05 -7.43 -8.73 -8.53 -7.87 -6.75 -5.62 -4.62 -3.65 -2.81	Section FT 0 1.155 3.61 6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28	CLOSURE Distance FT 0 1.31 4.14 7.22 0.01 22.33 24.64 27.25 29.7 31.79 34.02	CLOSURE Direction Deg 0 331.27 330.5 331.63 333.33 334.25 334.4 335.09 336.95 339.74 343.22 346.87 349.81	Severity Deg/100 0 1.5 0.26 0.24 0.25 0 0.47 0.4 0.54 0.34 0.54 0.33 0.24	Surf Gyrc Surf Gyrc
FT 0 100 200 300 400 500 600 700 800 900 1100 1200 1300 1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	Deg 0 1.5 1.75 1.75 1.25 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.7	Deg 0 331.27 329.19 337.12 337.04 336.96 332.89 346.82 359.74 7.66 17.59 25.52 25.45 20.37 12.91 12.76 13.7 24.62 0 187.37	Depth 0 99.99 199.95 299.9 399.85 499.79 599.67 899.63 999.58 1099.55 1299.47 1399.41 1499.33 1599.27 1699.24 1899.24	0 0 1.15 3.61 6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7 37.05 40.88 44.29 46.42	0 -0.63 -2.04 -3.42 -4.69 -6.05 -7.43 -8.73 -8.53 -7.87 -6.75 -5.62 -4.62 -3.655 -2.81	FT 0 1.15 3.61 6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7	FT 0 1.31 4.14 7.19 10.45 13.94 17.2 20.01 22.3 24.64 27.25 29.7 31.79	Deg 0 331.27 330.5 331.63 333.33 334.25 334.4 335.09 336.95 339.74 343.22 346.87	Deg/100 0 1.5 0.26 0.24 0.25 0 0.28 0.47 0.44 0.54 0.54 0.3 0.24 0.50	Surf Gyrc Surf Gyrc
0 100 200 300 400 500 600 700 800 900 1100 1200 1300 1500 1500 1500 1500 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	0 1.5 1.75 2 2 2 1.75 1.75 1.75 1.75 1.25 1.75 1.25 1.75 0.25 1.75 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.2	0 331.27 329.19 337.12 337.04 336.96 32.89 346.82 359.74 7.66 17.59 25.52 25.45 20.37 12.91 11.83 12.76 13.7 24.62 0 187.37	0 99.99 199.95 299.9 399.85 499.79 599.73 699.69 799.67 899.58 1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24 1899.24	1.15 3.61 6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7 37.05 40.88 44.29	-0.63 -2.04 -3.42 -4.69 -6.05 -7.43 -8.73 -8.53 -7.87 -6.75 -5.62 -4.62 -3.65 -2.81	0 1.15 3.61 6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7	0 1.31 4.14 7.19 10.45 13.94 17.2 20.01 22.3 24.64 27.25 29.7 31.79	0 331.27 330.5 331.63 333.33 334.25 334.4 335.09 336.95 339.74 343.22 346.87 349.81	0 1.5 0.26 0.24 0.25 0 0.28 0.47 0.4 0.54 0.3 0.24	Surf Gyre Surf Gyre
100 200 300 400 500 600 700 800 900 1100 1200 1300 1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	1.5 1.75 1.75 2 2 1.75 1.5 1.75 1.75 1.75 1.75 2.25 2.25 2.25 0.75 0.25 0.25	331.27 329.19 337.12 337.04 336.96 332.89 346.82 359.74 7.69 25.52 25.45 20.37 12.91 11.83 12.76 13.7 24.62 0	99.99 199.95 299.9 399.85 499.79 599.73 699.69 799.67 899.63 999.58 1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24 1799.24 1899.24	1.15 3.61 6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7 37.05 40.88 44.29	-0.63 -2.04 -3.42 -4.69 -6.05 -7.43 -8.73 -8.53 -7.87 -6.75 -5.62 -4.62 -3.65 -2.81	1.15 3.61 6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7	1.31 4.14 7.19 10.45 13.94 17.2 20.01 22.3 24.64 27.25 29.7 31.79	331.27 330.5 331.63 333.33 334.25 334.4 335.09 336.95 339.74 343.22 346.87	1.5 0.26 0.24 0.25 0 0.28 0.47 0.4 0.54 0.3 0.24	Surf Gyrn Surf Gyrn
200 300 400 500 600 700 800 900 1100 1100 1200 1300 1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	1.75 1.75 2 2 1.75 1.5 1.5 1.25 1.75 1.75 1.75 2.25 2.25 2.25 2.25 2.25 0.75 0.25 0.25 0.25 0.25 0.25	329.19 337.12 337.04 336.96 332.89 346.82 359.74 7.66 17.59 25.52 25.45 20.37 12.91 11.83 12.76 13.7 24.62 0	199.95 299.9 399.85 499.79 599.73 699.69 799.67 899.63 999.58 1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24 1799.24 1899.24	3.61 6.33 9.34 12.55 15.52 18.15 20.51 23.12 28.92 31.28 33.7 37.05 40.88 44.29	-2.04 -3.42 -4.69 -6.05 -7.43 -8.43 -8.73 -7.87 -6.75 -5.62 -4.62 -3.65 -2.81	3.61 6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7	4.14 7.19 10.45 13.94 17.2 20.01 22.3 24.64 27.25 29.7 31.79	330.5 331.63 333.33 334.25 334.4 335.09 336.95 339.74 343.22 346.87	0.26 0.24 0.25 0 0.28 0.47 0.4 0.54 0.3 0.24	Surf Gyrr Surf Gyrr
300 400 500 600 700 800 900 1100 1200 1300 1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	1.75 2 2 1.75 1.55 1.55 1.75 1.75 1.75 1.75 2.25 2.25 2.25 1.75 0.75 0.25 0.05 0.25	337.12 337.04 336.96 332.89 346.82 359.74 7.66 17.59 25.52 25.45 20.37 12.91 11.83 12.76 13.7 24.62 0	299.9 399.85 499.79 599.73 699.69 799.67 899.63 999.58 1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24 1799.24	6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7 37.08 40.88 44.29	-3.42 -4.69 -6.05 -7.43 -8.43 -8.73 -8.53 -6.75 -5.62 -4.62 -3.65 -2.81	6.33 9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7	7.19 10.45 13.94 17.2 20.01 22.3 24.64 27.25 29.7 31.79	331.63 333.33 334.25 334.4 335.09 336.95 339.74 343.22 346.87 349.81	0.24 0.25 0 0.28 0.47 0.4 0.54 0.3 0.24	Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr
400 500 600 700 800 900 1100 1200 1300 1400 1500 1500 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	2 2 1.75 1.55 1.75 1.75 1.75 1.25 1.75 2.25 2.25 2.25 0.25 0.25	337.04 336.96 332.89 346.82 359.74 7.66 17.59 25.52 25.45 20.37 12.91 11.83 12.76 0 187.37	399.85 499.79 599.73 699.67 899.63 999.58 1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24	9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7 37.05 40.88 44.29	-4.69 -6.05 -7.43 -8.43 -8.73 -8.53 -7.87 -6.75 -5.62 -4.62 -3.65 -2.81	9.34 12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7	10.45 13.94 17.2 20.01 22.3 24.64 27.25 29.7 31.79	333.33 334.25 334.4 335.09 336.95 339.74 343.22 346.87 349.81	0.25 0 0.28 0.47 0.4 0.54 0.3 0.24	Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr
500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1970 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	2 1.75 1.5 1.25 1.75 1.75 1.75 1.75 2.25 2.25 2.25 2.25 0.75 0.25	336.96 332.89 346.82 359.74 7.66 17.59 25.52 25.45 20.37 12.91 11.83 12.76 13.7 24.62 0	499.79 599.73 699.69 799.67 899.63 999.58 1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24	12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7 37.05 40.88 44.29	-6.05 -7.43 -8.43 -8.73 -8.53 -7.87 -6.75 -5.62 -4.62 -3.65 -2.81	12.55 15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7	13.94 17.2 20.01 22.3 24.64 27.25 29.7 31.79	334.25 334.4 335.09 336.95 339.74 343.22 346.87 349.81	0 0.28 0.47 0.4 0.54 0.3 0.24 0.5	Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	1.75 1.51 1.25 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.7	332.89 346.82 359.74 7.666 17.59 25.52 25.45 20.37 12.91 11.83 12.76 13.7 24.62 0	599.73 699.69 799.67 899.63 999.58 1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24 1799.24	15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7 37.05 40.88 44.29 46.42	-7.43 -8.43 -8.73 -8.53 -7.87 -6.75 -5.62 -4.62 -3.65 -2.81	15.52 18.15 20.51 23.12 26.09 28.92 31.28 33.7	17.2 20.01 22.3 24.64 27.25 29.7 31.79	334.4 335.09 336.95 339.74 343.22 346.87 349.81	0.28 0.47 0.4 0.54 0.3 0.24	Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr
700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	1.5 1.25 1.75 1.75 1.75 1.25 1.75 2.25 2.25 2.25 0.75 0.25 0.25 0.25	346.82 359.74 7.66 17.59 25.52 25.45 20.37 12.91 11.83 12.76 13.7 24.62 187.37	699.69 799.67 899.63 999.58 1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24 1799.24	18.15 20.51 23.12 26.09 28.92 31.28 33.7 37.05 40.88 44.29 46.42	-8.73 -8.53 -7.87 -6.75 -5.62 -4.62 -3.65 -2.81	18.15 20.51 23.12 26.09 28.92 31.28 33.7	22.3 24.64 27.25 29.7 31.79	335.09 336.95 339.74 343.22 346.87 349.81	0.47 0.4 0.54 0.3 0.24 0.5	Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr Surf Gyr
900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1970  MD In 2,168 2,231 2,294 2,3357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	1.75 1.75 1.75 1.75 2.25 2.25 2.25 1.75 0.75 0.25 0.25	7.66 17.59 25.52 25.45 20.37 12.91 11.83 12.76 13.7 24.62 0 187.37	899.63 999.58 1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24 1799.24	23.12 26.09 28.92 31.28 33.7 37.05 40.88 44.29 46.42	-8.53 -7.87 -6.75 -5.62 -4.62 -3.65 -2.81	23.12 26.09 28.92 31.28 33.7	24.64 27.25 29.7 31.79	339.74 343.22 346.87 349.81	0.54 0.3 0.24 0.5	Surf Gyr Surf Gyr Surf Gyr Surf Gyr
1000 1100 1200 1300 1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	1.75 1.75 1.25 1.75 2.25 2.25 2.25 0.75 0.25 0.25 0.25 0.25	17.59 25.52 25.45 20.37 12.91 11.83 12.76 13.7 24.62 0 187.37	999.58 1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24 1799.24	26.09 28.92 31.28 33.7 37.05 40.88 44.29 46.42	-7.87 -6.75 -5.62 -4.62 -3.65 -2.81	26.09 28.92 31.28 33.7	27.25 29.7 31.79	343.22 346.87 349.81	0.3 0.24 0.5	Surf Gyr Surf Gyr Surf Gyr
1100 1200 1300 1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,736 2,799 2,863 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	1.75 1.25 1.75 2.25 2.25 1.75 0.75 0.25 0 0.25 0 0.25	25.52 25.45 20.37 12.91 11.83 12.76 13.7 24.62 0 187.37	1099.54 1199.5 1299.47 1399.41 1499.33 1599.27 1699.24 1799.24	28.92 31.28 33.7 37.05 40.88 44.29 46.42	-6.75 -5.62 -4.62 -3.65 -2.81	28.92 31.28 33.7	29.7 31.79	346.87 349.81	0.24 0.5	Surf Gyr
1200 1300 1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	1.25 1.75 2.25 2.25 1.75 0.75 0.25 0.25 0.25	25.45 20.37 12.91 11.83 12.76 13.7 24.62 0 187.37	1199.5 1299.47 1399.41 1499.33 1599.27 1699.24 1799.24 1899.24	31.28 33.7 37.05 40.88 44.29 46.42	-5.62 -4.62 -3.65 -2.81	31.28 33.7	31.79	349.81	0.5	Surf Gyı
1300 1400 1500 1600 1700 1800 1900 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,739 2,863 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	1.75 2.25 2.25 1.75 0.75 0.25 0.25 0.25 0.69 2.56	20.37 12.91 11.83 12.76 13.7 24.62 0 187.37	1299.47 1399.41 1499.33 1599.27 1699.24 1799.24 1899.24	33.7 37.05 40.88 44.29 46.42	-4.62 -3.65 -2.81	33.7				
1400 1500 1600 1700 1800 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,739 2,863 2,799 2,863 2,999 3,052 3,116 3,179 3,243 3,243 3,305	2.25 2.25 1.75 0.75 0.25 0 0.25 nc 0.69 2.56 5.56	12.91 11.83 12.76 13.7 24.62 0 187.37	1399.41 1499.33 1599.27 1699.24 1799.24 1899.24	37.05 40.88 44.29 46.42	-3.65 -2.81		34.02	352 19		
1500 1600 1700 1800 1900 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,799 2,863 2,999 3,052 3,116 3,179 3,243 3,305	2.25 1.75 0.75 0.25 0 0.25 nc 0.69 2.56 5.56	11.83 12.76 13.7 24.62 0 187.37	1499.33 1599.27 1699.24 1799.24 1899.24	40.88 44.29 46.42	-2.81					Surf Gy
1600 1700 1800 1900 1970 MD	1.75 0.75 0.25 0 0.25 nc 0.69 2.56 5.56	12.76 13.7 24.62 0 187.37	1599.27 1699.24 1799.24 1899.24	44.29 46.42		37.05	37.22	354.37		Surf Gy
1700 1800 1900 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	0.75 0.25 0 0.25 nc 0.69 2.56 5.56	13.7 24.62 0 187.37	1699.24 1799.24 1899.24	46.42		40.88	40.98	356.07		Surf Gyr
1800 1900 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	0.25 0 0.25 nc 0.69 2.56 5.56	24.62 0 187.37	1799.24 1899.24		-2.07	44.29	44.34	357.32		Surf Gy
1900 1970 MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,989 3,052 3,116 3,179 3,243 3,305	0 0.25 nc 0.69 2.56 5.56	0 187.37	1899.24		-1.58	46.42	46.44	358.05		Surf Gyr
1970 In 2,168 2,231 2,294 2,354 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	0.25 nc 0.69 2.56 5.56	187.37		47.25	-1.33	47.25	47.27	358.39		Surf Gyr
MD In 2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	0.69 2.56 5.56		IMDA 7/1	47.45	-1.24	47.45	47.46	358.5		Surf Cyr
2,168 2,231 2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	0.69 2.56 5.56	AZI		47.3	-1.26	47.3	47.31	358.47		Surf Gy
2,231 2,294 2,352 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	2.56 5.56		TVD	N/S	E/W	Vs	Dleg	Build	Turn	NAVA/P
2,294 2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	5.56	188.93	2,167.99	45.694	-1.5	-27.951	0.222	0.222		MWD
2,357 2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305		202.18	2,230.97	44.016	-2.091	-26.428	3.008	2.968	21.032	
2,420 2,484 2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	0.03	213.3 218.43	2,293.80	40.161	-4.298 -8.234	-22.271	4.901 1.904	4.762	17.651	MWD
2,484 2,547 2,610 2,673 2,736 2,739 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305			2,356.44	34.761		-15.796		1.698		
2,547 2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,115 3,179 3,243 3,305	8.06 10.13	224.93 228.55	2,418.93 2,482.12	28.785 21.882	-13.614 -21.002	-7.842 2.25	2.622 3.354	2.27 3.234	10.317	MWD
2,610 2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	11.75	225.8	2,543.97	13.742	-21.002	14.182	2.701	2.571	-4.365	
2,673 2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	13.44	226.93	2,605.45	4.269	-39.702	27.885	2.711	2.683		MWD
2,736 2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	15.06	225.55	2,666.51	-6.463	-50.894	43.349	2.627	2.571		MWD
2,799 2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	15.00	228.55	2,727.22	-17.921	-63.222	60.151	1.889	1.397		MWD
2,863 2,926 2,989 3,052 3,116 3,179 3,243 3,305	16.94	228.93	2,727.22	-29.678	-76.626	77.972	1.596	1.587		MWD
2,926 2,989 3,052 3,116 3,179 3,243 3,305	17.13	228.93	2,787.65	-42.222	-76.626	96.702	0.897	0.297	-2.891	
2,989 3,052 3,116 3,179 3,243 3,305	17.13	230.93	2,908.94	-54.613	-104.832	115.599	2.128	1.079		MWD
3,052 3,116 3,179 3,243 3,305	18.69	228.68	2,968.77	-67.351	-119.894	135.324	1.789	1.397	-3.571	
3,116 3,179 3,243 3,305	20.06	228.68	3,028.20	-81.15	-135.59	156.214	2.175	2.175		MWD
3,179 3,243 3,305	21.94	228.3	3,087.94	-96.352	-152.762	179.135	2.175	2.937	-0.594	
3,243 3,305	23.94	227.05	3,145.96	-112.893	-170.908	203.659	3.267	3.175	-1.984	
3,305	24.69	227.18	3,204.28	-130.826		229.967	1.175	1.172		MWD
	24.00	226.43	3,260.77	-148.318	-208.85	255.473	1.219	-1.113		MWD
3,368	25.31	226.3	3,318.02	-166.453	-227.87	281.687	2.081	2.079	-0.206	
3,432	25.88	225.43	3,375.74	-185.707	-247.711	309.247	1.067	0.891	-1.359	
3,495	27.94	226.3	3,431.92	-205.556	-268.179	337.668	3.329	3.27		MWD
3,558	29.69	229.8	3,487.12	-225.826	-290.77	367.995	3.857	2.778	5.556	MWD
3,621	29.88	231.43	3,541.80	-245.681	-314.956	399.287	1.32	0.302	2.587	MWD
3,684	28.25	230.05	3,596.86	-265.04	-338.657	429.889	2.797	-2.587	-2.19	MWD
3,748	27.50	226.8	3,653.44	-284.882	-361.041	459.783	2.647	-1.172	-5.078	
3,811	30.13	228.18	3,708.64	-305.386	-383.432	490.105	4.306	4.175	2.19	MWD
3,874	30.94	227.8	3,762.90	-326.808	-407.214	522.083	1.322	1.286	-0.603	
3,938	29.31	226.05	3,818.25	-348.734	-430.682	554.141	2.893	-2.547	-2.734	
4,001	29.06	225.68	3,873.25	-370.126	-452.731	584.764	0.489	-0.397	-0.587	
4,064	28.94	227.43	3,928.36	-391.128	-474.903	615.234	1.36	-0.19		MWD
4,127	28.75	228.55	3,983.54	-411.469	-497.485	645.599	0.909	-0.302		MWD
4,191	28.38	228.55	4,039.75	-431.726	-520.422	676.184	0.578	-0.578		MWD
4,254	27.25	228.3	4,095.47	-451.233	-542.414	705.563	1.803	-1.794	-0.397	
4,317	26.44	227.43	4,151.68	-470.316	-563.513	733.983	1.429	-1.286	-1.381	
4,380	25.69	227.43	4,208.27	-489.042	-583.899	761.626	1.19	-1.19		MWD
4,444	25.13	226.8	4,266.08	-507.73	-604.021	789.042	0.972	-0.875	-0.984	
4,506	24.13	226.18	4,322.44	-525.517	-622.762	814.819	1.666	-1.613		MWD
4,569	23.88	229.68	4,379.99	-542.685	-641.777	840.414	2.294	-0.397		MWD
4,632	23.19	229.93	4,437.75	-558.921	-660.992	865.568	1.107	-1.095		MWD
4,695	22.63	230.43	4,495.78	-574.627	-679.828	890.093	0.941	-0.889		MWD
4,759	22.00	229.8	4,554.99	-590.208	-698.476	914.393	1.053	-0.984	-0.984	
4,822	21.50	227.68	4,613.51	-605.598	-716.025	937.724	1.478	-0.794	-3.365	
4,885	20.75	226.68	4,672.27	-621.028	-732.681	960.392	1.321	-1.19	-1.587	
4,949	20.44	226.43	4,732.18	-636.508	-749.026	982.853	0.503	-0.484	-0.391	
5,012	19.81	229.3	4,791.34	-651.052	-765.09	1,004.50	1.859	-1		MWD
5,076	19.56	229.43	4,851.60	-665.092	-781.45	1,026.06	0.397	-0.391		MWD
5,139	18.13	230.43	4,911.22	-678.196	-797.018	1,046.40	2.327	-2.27		MWD
5,202	17.69	229.8	4,971.16	-690.618	-811.885	1,065.78	0.763	-0.698		MWD
5,266	17.38	229.8	5,032.19	-703.064	-826.612	1,085.06	0.484	-0.484		MWD
5,329	16 25	228.93	5,092.50	-714.929	-840.445	1,103.28	1.838	-1.794	-1.381	
5,392	16.25	228.55	5,153.18	-726.096	-853.178	1,120.21	2.086	-2.079	-0.603	
5,456 5,519	14.94 14.31	227.93 227.8	5,215.10 5,276.22	-736.857 -747.103	-865.233 -876.559	1,136.36 1,151.61	1.014 0.89	-0.984 -0.889	-0.969 -0.206	

5,582										
	13.45	226.79	5,337.46	-757.149	-887.446	1,166.40	0.607	-0.476	-1.603	MWD
5,646	13.31	227.43	5,399.72	-767.229	-898.296	1,181.19	0.318	-0.219	1	MWD
5,709	11.94	225.55	5,461.19	-776.699	-908.29	1,194.93	2.27	-2.175	-2.984	MWD
5,772	10.38	231.3	5,523.00	-784.812	-917.372	1,207.10	3.039	-2.476	9.127	MWD
5,836	10.25	232.18	5,585.97	-791.908	-926.37	1,218.55	0.319	-0.203	1.375	MWD
5,899	9.19	232.68	5,648.06	-798.396	-934.799	1,229.18	1.688	-1.683	0.794	MWD
5,962	8.56	234.8	5,710.31	-804.148	-942.631	1,238.88	1.127	-1	3.365	MWD
6,025	7.38	235.3	5,772.70	-809.155	-949.789	1,247.59	1.876	-1.873	0.794	MWD
6,088	5.75	234.05	5,835.28	-813.311	-955.671	1,254.77	2.597	-2.587	-1.984	MWD
6,152	5.38	232.05	5,898.98	-817.038	-960.632	1,260.97	0.653	-0.578	-3.125	MWD
6,214	4.69	240.43	5,960.74	-820.077	-965.129	1,266.37	1.624	-1.113	13.516	MWD
6,278	3.5	242.05	6,024.58	-822.284	-969.13	1,270.86	1.868	-1.859	2.531	MWD
6,341	3.06	237.18	6,087.48	-824.096	-972.242	1,274.42	0.826	-0.698	-7.73	MWD
6,404	2.25	237.93	6,150.41	-825.664	-974.703	1,277.31	1.287	-1.286	1.19	MWD
6,468	1.06	260.96	6,214.38	-826.424	-976.352	1,279.07	2.094	-1.859	35.984	MWD
6,531	1.06	280.68	6,277.37	-826.408	-977.5	1,279.94	0.576	0	31.302	MWD
6,594	0.88	260.8	6,340.36	-826.377	-978.551	1,280.73	0.601	-0.286	-31.556	MWD
6,658	0.81	230.43	6,404.35	-826.744	-979.385	1,281.61	0.7	-0.109	-47.453	MWD
Last Survey	Depth Re	corded								
6,658	0.81	230.43	6,404.35	-826.744	-979.385	1,281.61	0.7	-0.109	-47.453	MWD
Measured	Incl	Drift	TRUE			Vertical	CLOSURE	CLOSURE	Dogleg	
Measured Depth	Incl Angle	Drift Direction	TRUE Vertical	N-S	E-W	Vertical Section	CLOSURE Distance	CLOSURE Direction	Dogleg Severity	
				N-S FT	E-W FT				0 0	
Depth	Angle	Direction	Vertical			Section	Distance	Direction	Severity Deg/100	Btm Gyro
Depth FT	Angle Deg	Direction Deg	Vertical Depth	FT	FT	Section FT	Distance FT	Direction Deg	Severity Deg/100 1.16	Btm Gyro Btm Gyro
Depth FT 6700	Angle Deg 0.5	Direction Deg 196.29	Vertical Depth 6446.35	FT -827.11	FT -979.67	Section FT 1280.07	Distance FT 1282.13	Direction Deg 229.83	Severity Deg/100 1.16 0.43	
Depth FT 6700 6800	Angle Deg 0.5 0.25	Direction Deg 196.29 256.4	Vertical Depth 6446.35 6546.35	FT -827.11 -827.58	FT -979.67 -980	Section FT 1280.07 1280.64	Distance FT 1282.13 1282.69	Direction Deg 229.83 229.82	Severity Deg/100 1.16 0.43 0.73	Btm Gyro
Depth FT 6700 6800 6900	Angle Deg 0.5 0.25 0.75	Direction Deg 196.29 256.4 181.51	Vertical Depth 6446.35 6546.35 6646.34	FT -827.11 -827.58 -828.28	FT -979.67 -980 -980.23	Section FT 1280.07 1280.64 1281.29	Distance FT 1282.13 1282.69 1283.32	Direction Deg 229.83 229.82 229.8	Severity Deg/100 1.16 0.43 0.73 0.71	Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000	Angle Deg 0.5 0.25 0.75 1.25	Direction Deg 196.29 256.4 181.51 151.61 151.72	Vertical Depth 6446.35 6546.35 6646.34 6746.33	FT -827.11 -827.58 -828.28 -829.89	FT -979.67 -980 -980.23 -979.73	Section FT 1280.07 1280.64 1281.29 1282.03	Distance FT 1282.13 1282.69 1283.32 1283.98	Direction Deg 229.83 229.82 229.8 229.73	Severity Deg/100 1.16 0.43 0.73 0.71	Btm Gyro Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7100	Angle Deg 0.5 0.25 0.75 1.25	Direction Deg 196.29 256.4 181.51 151.61	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.3	FT -827.11 -827.58 -828.28 -829.89 -831.81	FT -979.67 -980 -980.23 -979.73 -978.7	Section FT 1280.07 1280.64 1281.29 1282.03 1282.6	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43	Direction Deg 229.83 229.82 229.8 229.73 229.64	Severity Deg/100 1.16 0.43 0.73 0.71 0	Btm Gyro Btm Gyro Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7100 7200	Angle Deg 0.5 0.25 0.75 1.25 1.25 1.5	Direction Deg 196.29 256.4 181.51 151.61 151.72 150.83	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.3	FT -827.11 -827.58 -828.28 -829.89 -831.81 -833.92	FT -979.67 -980 -980.23 -979.73 -978.7 -977.54	Section FT 1280.07 1280.64 1281.29 1282.03 1282.6 1283.21	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43 1284.92	Direction Deg 229.83 229.82 229.8 229.73 229.64 229.53	Severity Deg/100 1.16 0.43 0.73 0.71 0 0.25 0.28	Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7100 7200 7300	Angle Deg 0.5 0.25 0.75 1.25 1.25 1.5 1.75	Direction Deg 196.29 256.4 181.51 151.61 151.72 150.83 155.46	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.37 7046.23	FT -827.11 -827.58 -828.28 -829.89 -831.81 -833.92 -836.45	FT -979.67 -980 -980.23 -979.73 -978.7 -977.54 -976.27	FT 1280.07 1280.64 1281.29 1282.03 1282.6 1283.21 1284.03	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43 1284.92 1285.59	Direction Deg 229.83 229.82 229.8 229.73 229.64 229.53 229.41	Severity Deg/100 1.16 0.43 0.73 0.71 0 0.25 0.28 0.66	Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7100 7200 7300 7400	Angle Deg 0.5 0.25 0.75 1.25 1.25 1.5 1.75	Direction Deg 196.29 256.4 181.51 151.61 151.72 150.83 155.46 138.58	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.27 7046.23 7146.2	FT -827.11 -827.58 -828.28 -829.89 -831.81 -833.92 -836.45 -838.66	FT -979.67 -980 -980.23 -979.73 -978.7 -977.54 -976.27 -974.91	FT 1280.07 1280.64 1281.29 1282.03 1282.6 1283.21 1284.03 1284.56	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43 1284.92 1285.59 1286	Direction Deg 229.83 229.82 229.8 229.73 229.64 229.53 229.41 229.3	Severity Deg/100 1.16 0.43 0.73 0.71 0 0.25 0.28 0.66 0.09	Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7100 7200 7300 7400 7500	Angle Deg 0.5 0.25 0.75 1.25 1.25 1.5 1.75 1.25	Direction Deg 196.29 256.4 181.51 151.61 151.72 150.83 155.46 138.58 142.69	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.3 6946.27 7046.23 7146.2 7246.18	FT -827.11 -827.58 -828.28 -829.89 -831.81 -833.92 -836.45 -838.66 -840.34	FT -979.67 -980 -980.23 -979.73 -978.7 -977.54 -976.27 -974.91 -973.53	FT 1280.07 1280.64 1281.29 1282.03 1282.6 1283.21 1284.03 1284.56 1284.71	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43 1284.92 1285.59 1286	Direction Deg 229.83 229.82 229.8 229.73 229.64 229.53 229.41 229.3 229.2	Severity Deg/100 1.16 0.43 0.73 0.71 0 0.25 0.28 0.66 0.09 0.3	Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600	Angle Deg 0.5 0.25 0.75 1.25 1.5 1.75 1.25 1.25 1.25	Direction Deg 196.29 256.4 181.51 151.61 151.72 150.83 155.46 138.58 142.69 150.79	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.37 7046.23 7146.2 7246.18	FT -827.11 -827.58 -828.28 -829.89 -831.81 -833.92 -836.45 -840.34 -841.97	FT -979.67 -980.23 -979.73 -978.7 -976.27 -974.91 -973.53 -972.44	Section FT 1280.07 1280.64 1281.29 1282.03 1282.6 1283.21 1284.03 1284.56 1284.71 1285.04	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43 1284.92 1285.59 1286.06 1286.3	Direction Deg 229.83 229.82 229.8 229.73 229.64 229.53 229.41 229.3 229.2	Severity Deg/100 1.16 0.43 0.73 0.71 0 0.25 0.28 0.66 0.09 0.3	Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7100 7300 7300 7400 7500 7600 7700	Angle Deg 0.5 0.25 0.75 1.25 1.5 1.75 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.2	Direction Deg 196.29 256.4 181.51 151.61 151.72 150.83 155.46 138.58 142.69 150.79	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.37 7046.23 7146.2 7246.18 7346.16 7446.13	FT -827.11 -827.58 -828.28 -829.89 -831.81 -833.92 -836.45 -840.34 -841.97 -843.95	FT -979.67 -980 -980.23 -979.73 -978.7 -977.54 -976.27 -974.91 -973.53 -972.44 -971.53	FT 1280.07 1280.64 1281.29 1282.03 1282.6 1283.21 1284.03 1284.56 1284.71 1285.04 1285.73	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43 1284.92 1285.59 1286 1286.06 1286.3 1286.9	Direction Deg 229.83 229.82 229.73 229.64 229.53 229.41 229.3 229.2 229.11 229.02	Severity Deg/100 1.16 0.43 0.73 0.71 0 0.25 0.28 0.66 0.09 0.3 0.52	Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600 7700	Angle Deg 0.5 0.25 0.75 1.25 1.5 1.75 1.25 1.5 1.75 1.25 1.5 1.75 1.75 1.75 1.75	Direction Deg 196.29 256.4 181.51 151.61 151.72 150.83 155.46 138.58 142.69 150.79 157.89	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.3 6946.27 7046.23 7146.2 7246.18 7346.16 7446.13 7546.09	FT -827.11 -827.58 -828.28 -829.89 -831.81 -833.92 -836.45 -840.34 -841.97 -843.95 -846.53	FT -979.67 -980.23 -979.73 -978.7 -977.54 -976.27 -974.91 -973.53 -972.44 -971.53 -970.36	FT 1280.07 1280.64 1281.29 1282.03 1282.6 1283.21 1284.36 1284.71 1285.04 1285.73 1286.66	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43 1284.92 1285.59 1286.06 1286.30 1286.9	Direction Deg 229.83 229.82 229.8 229.73 229.64 229.53 229.41 229.2 229.11 229.02 228.9	Severity Deg/100 1.16 0.43 0.73 0.71 0 0.25 0.28 0.66 0.09 0.33 0.52 0.27	Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600 7700 7800 7900	Angle Deg 0.5 0.25 0.75 1.25 1.5 1.75 1.25 1.5 1.75 1.25 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.	Direction Deg 196.29 256.4 181.51 151.61 151.72 150.83 155.46 138.58 142.69 150.79 157.89 154 128.12	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.3 6946.27 7046.23 7146.2 7246.18 7346.16 7446.13 7546.09	FT -827.11 -827.58 -828.28 -829.89 -831.81 -833.92 -836.45 -840.34 -841.97 -843.95 -846.53 -848.58	FT -979.67 -980 -980.23 -979.73 -978.7 -977.54 -976.27 -974.91 -975.44 -971.53 -970.36 -968.84	Section FT 1280.07 1280.64 1281.29 1282.03 1282.6 1283.21 1284.03 1284.56 1284.71 1285.04 1285.73 1286.66	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43 1284.92 1285.59 1286.06 1286.06 1286.3 1286.9	Direction Deg 229.83 229.82 229.8 229.73 229.64 229.53 229.41 229.3 229.2 229.11 229.02 228.9 228.79	Severity Deg/100 1.16 0.43 0.73 0.71 0 0.25 0.28 0.66 0.09 0.3 0.52 0.27	Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7200 7300 7400 7500 7600 7700 7800 7900 8000 8100	Angle Deg 0.5 0.25 0.75 1.25 1.25 1.5 1.75 1.25 1.5 1.5 1.75 1.75 1.75 1.25 1.75 1.75 1.75	Direction Deg 196.29 256.4 181.51 151.61 151.72 150.83 155.46 138.58 142.69 150.79 157.89 154.12 133.22 114.34	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.37 7046.23 7146.2 7246.18 7346.16 7446.13 7546.06 7746.02 7845.98	FT -827.11 -827.58 -828.28 -829.89 -831.81 -833.92 -836.45 -840.34 -841.97 -843.95 -846.53 -848.58 -850.3 -851.97	FT -979.67 -980 -980.23 -979.73 -977.54 -976.27 -974.91 -973.53 -972.44 -971.53 -970.36 -968.84 -966.87 -964.36	Section FT 1280.07 1280.64 1281.29 1282.03 1282.03 1284.03 1284.56 1284.71 1285.04 1285.73 1286.66 1286.71	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43 1284.92 1285.59 1286.06 1286.3 1286.9 1287.72 1287.72	Direction Deg 229.83 229.82 229.8 229.764 229.53 229.41 229.3 229.2 229.11 229.02 228.79 228.67 228.54	Severity Deg/100 1.16 0.43 0.73 0.71 0 0.25 0.28 0.66 0.09 0.3 0.52 0.27 0.83 0.52	Btm Gyro Btm Gyro
Depth FT 6700 6800 6900 7000 7200 7300 7400 7500 7600 7700 7800 7900	Angle Deg 0.5 0.25 0.75 1.25 1.25 1.5 1.5 1.25 1.5 1.5 1.5 1.5 1.75 1.5 1.75 1.75 1.7	Direction Deg 196.29 256.4 181.51 151.61 151.72 150.83 155.46 138.58 142.69 150.79 157.89 154 128.12	Vertical Depth 6446.35 6546.35 6646.34 6746.33 6846.37 7046.23 7146.2 7246.18 7346.16 7446.00 7646.06	FT -827.11 -827.58 -828.28 -829.89 -831.81 -833.92 -836.45 -840.34 -841.97 -843.95 -846.53 -848.58 -850.3	FT -979.67 -980 -980.23 -979.73 -978.7 -977.54 -976.27 -974.91 -973.53 -970.36 -968.84 -966.87	Section FT 1280.07 1280.64 1281.29 1282.03 1282.6 1283.21 1284.03 1284.56 1284.71 1285.04 1285.04 1285.6 1286.66	Distance FT 1282.13 1282.69 1283.32 1283.98 1284.43 1284.92 1285.59 1286.06 1286.0 1286.3 1286.9 1287.72	Direction Deg 229.83 229.82 229.8 229.7 229.64 229.53 229.41 229.3 229.2 229.11 229.02 228.79 228.79	Severity Deg/100 1.16 0.43 0.73 0.71 0 0.25 0.28 0.66 0.09 0.3 0.52 0.27 0.83 0.52	Btm Gyro Btm Gyro

### Acid Pickling and H2S Procedures (If Required)

#### \*\*PROCEDURE FOR PUMPING ACID DOWN TBG

WHEN FINDING SCALE IN TUBING THAT IS ACID SOLUBLE, ENSURE THAT PLUNGER EQUIPMENT IS REMOVED AND ABLE TO PUMP DOWN TBG. INSTALL A 'T' IN PUMP LINE W/2" VALVE THAT NALCO CAN TIE INTO. HAVE 60 BBLS 2% KCL MIXED W/ 10-15 GAL H2S SCAVENGER IN RIG FLAT TANK. (WE USED THE RIG FLAT TANK FOR MIXING CHEMICAL SO WE DIDN'T HAVE THE CHEMICAL IN ALL FLUIDS ON LOCATION, ONLY WHAT WE NEEDED TO PUMP DOWN HOLE)

- 1. PUMP 5-10 BBLS 2% KCL DOWN TBG (NALCO CANNOT PUMP AGAINST PRESSURE)
- 2. NALCO WILL PUMP 3 DRUMS HCL (31%) INTO PUMP LINE.
- 3. FLUSH BEHIND ACID WITH 10-15 BBL 2% KCL
- 4. PUMP 2—30 BBL 2% W/ H2S SCAVENGER DOWN TBG.
- 5. PUMP REMAINDER OF 2% W/ H2S SCAVENGER DOWN CASING AND SHUT WELL IN FOR MINIMUM OF 2 HRS.
- 6. OVER DISPLACE DOWN TBG AND CSG TO FLUSH ACID AND SCAVENGER INTO FORMATION
- 7. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

#### \*\* PROCEDURE FOR PUMPING H2S SCAVENGER WITHOUT ACID

PRIOR TO RIG MOVING ON OR AS RIG PULLS ONTO LOCATION. TEST CASING, TUBING AND SEPARATOR FOR H2S. IF FOUND MAKE SURE THAT PLUNGER SYSTEM IS REMOVED (IT IS POSSIBLE TO PUMP AROUND PLUNGERS BUT SOME WILL HAVE A STANDING VALVE IN SEATING NIPPLE).

- 1. MIX 10-15 GAL H2S SCAVENGER WITH 60-100 BBL 2% KCL IN RIG FLAT TANK.
- 2. PUMP 25 BBLS MIXTURE DOWN TUBING AND REST DOWN CASING. SHUT WELL IN FOR 2 HOURS.
- 3. IF WELL HAS PRESSURE AFTER 2 HOURS RETEST CASING AND TUBING FOR H2S.
- 4. FLUSH TUBING AND CASING PUSHING H2S SCAVENGER INTO FORMATION.
- 5. MONITOR TUBING FOR FLOW AND CASING FOR H2S NOW AS POOH W/ TUBING.

<sup>\*\*</sup> As per APC standard operating procedure, APC foreman will verify ALL volumes pumped and record on APC Volume Report Form

#### **Key Contact information**

Completion Engineer

Patricia Cuba: 303/601-7259. 720/929-6348

**Production Engineer** 

Ben Smiley: 435/781-7010, 936/524-4231 Brad Laney: 435/781-7031, 435/828-5469

Jordan Portillo: 435/781-9785, 435/828-6221

Laura M. Wellman: 435/781-9748, 435/322-0118

Completion Supervisor Foreman

Jeff Samuels: 435-828-6515, 435-781-7046

Completion Manager

Jeff Dufresne: 720-929-6281, 303-241-8428

Vernal Main Office

435-789-3342

#### Emergency Contact Information—Call 911

Vernal Regional Hospital Emergency: 435-789-3342

Police: (435) 789-5835

Fire: 435-789-4222

#### STATE OF UTAH AMENDED REPORT FORM 8 (highlight changes) DEPARTMENT OF NATURAL RESOURCES 5. LEASE DESIGNATION AND SERIAL NUMBER: DIVISION OF OIL, GAS AND MINING STUO-08512 ST 6. IF INDIAN, ALLOTTEE OR TRIBE NAME WELL COMPLETION OR RECOMPLETION REPORT AND LOG 7. UNIT or CA AGREEMENT NAME 1a. TYPE OF WELL: WELL [] GAS Z OTHER UTU63047A WELL NAME and NUMBER: b. TYPE OF WORK: DIFF. RESVR. NBU 1022-13M2CS RECOMPLETION RE-ENTRY OTHER 9 API NUMBER 2. NAME OF OPERATOR: KERR MCGEE OIL & GAS ONSHORE, L.P. 4304739488 10 FIELD AND POOL, OR WILDCAT PHONE NUMBER: 3 ADDRESS OF OPERATOR: **NATURAL BUTTES** STATE CO ZIP 80217 (720) 929-6304 P.O.BOX 173779 CITY DENVER 11. QTR/QTR, SECTION, TOWNSHIP, RANGE, 4. LOCATION OF WELL (FOOTAGES) AT SURFACE: NWSW 1552 FSL1289 FWL S13,T10S,R22E NWSW 13 10S 22E S AT TOP PRODUCING INTERVAL REPORTED BELOW: SWSW 815 FSL 424 FWL S13,T10S.R22E 12. COUNTY 13. STATE AT TOTAL DEPTH: SWSW 696 FSL 331 FWL S13,T10S,R22E UTAH **UINTAH** 17. ELEVATIONS (DF, RKB, RT, GL): 14. DATE SPUDDED: 15. DATE T.D. REACHED: 16. DATE COMPLETED: READY TO PRODUCE 🔽 ABANDONED 5287 GL 10/29/2007 12/20/2007 7/2/2012 21. DEPTH BRIDGE 19. PLUG BACK T.D.: MD 8.450 20. IF MULTIPLE COMPLETIONS, HOW MANY? MD 6,320 18. TOTAL DEPTH: MD 8.495 PLUG SET: TVD TVD 8.196 TVD 8.241 22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) NO 🔽 WAS WELL CORED? YES (Submit analysis) WAS DST RUN? ио 🔽 YES (Submit report) DIRECTIONAL SURVEY? NO 🔽 YE\$ (Submit copy) 24. CASING AND LINER RECORD (Report all strings set in well) CEMENT TYPE & NO. OF SACKS SLURRY VOLUME (BBL) STAGE CEMENTER AMOUNT PULLED TOP (MD) BOTTOM (MD) CEMENT TOP \*\* WEIGHT (#/ft.) HOLE SIZE SIZE/GRADE DEPTH 36.7# 0 40 28 20" 14" STL 32#,36# 0 2,170 1,050 12 1/4" 9 5/81 J-55 310 7 7/8" 4 1/2' 1-80 11.6# 0 8.495 1.560 25. TUBING RECORD PACKER SET (MD) PACKER SET (MD) DEPTH SET (MD) PACKER SET (MD) DEPTH SET (MD) DEPTH SET (MD) SIZE SIZE 2 3/8" 6,246 26. PRODUCING INTERVALS 27. PERFORATION RECORD INTERVAL (Top/Bot - MD) SIZE NO. HOLES PERFORATION STATUS FORMATION NAME TOP (MD) BOTTOM (MD) TOP (TVD) BOTTOM (TVD) 0.36 5,424 6,315 66 Open Squeezed (A) WASATCH 5.424 6.315 (B) Open Squeezed Open Squeezed (C)

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL

SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION

DEFITTINGENVAL		,			
5424-6315	PUMP 2,173 BBL	S SLICK H2O & 70,100	LBS 30/50 OT1	AWA SAND c	
	3 STAGES			-	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
				DIV_C	FOU.
29. ENCLOSED ATTACHMENTS:					30: WELL STAINING
ELECTRICAL/MECHANIC	CAL LOGS	GEOLOGIC REPORT	DST REPORT	DIRECTIONAL SURVE	PROD

CORE ANALYSIS

AMOUNT AND TYPE OF MATERIAL

OTHER:

Open

Squeezed

RECEIVED

(D)

31. INITIAL PRO	DDUCTION	_		INT	ERVAL A (As sho	wn in item #26)				
DATE FIRST PR	ODUCED:	TEST DATE;		HOURS TESTE	o: <b>24</b>	TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD: FLOWIN
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	BTU – GAS GAS/OIL RATIO 24 RA		OIL BBL:	GAS MCF:	WATER BBL:	INTERVAL STATE
	. <del> </del>	<del>l</del>	<del> </del>	INT	ERVAL B (As sho	wn in item #26)				
DATE FIRST PR	ODUCED:	TEST DATE:		HOURS TESTE	<b>D</b> :	TEST PRODUCTION RATES: →	OIL - BBL:	GAS MCF:	WATER BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS MCF:	WATER BBL:	INTERVAL STATI
	<del></del>			INT	ERVAL C (As sho	wn in item #26)				
DATE FIRST PR	ODUCED:	TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG, PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL ~ BBL:	GAS MCF:	WATER - BBL:	INTERVAL STATE
		<u> </u>	<u> </u>	INT	ERVAL D (As sho	wn in item #26)				
DATE FIRST PR	ODUCED:	TEST DATE:		HOURS TESTE	D:	TEST PRODUCTION RATES: →	OIL - BBL:	GAS MCF:	WATER - BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS MCF:	WATER - BBL:	INTERVAL STATE

3	3	8	п	М	W.	<b>ARY</b>	OF	PO	RO	US	ZO	NES	(In	clude	Αa	ulfers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1,034 1,284 1,676 4,144 6,423

Attached is the recompletion fistory and perforation report. Csg in the well is as reported on the original Completion Report. New recompletion perforations are: Wasatch 5424-6315; existing perforations: Mesaverde 6456-8437'. An Iso plug separating new perforations from old perforations is at 6320'. Test info is production from new Wasatch perforations. An NOI will be submitted before ISO plug is drilled out. A hole was found in csg between 3023-3038. Pumped 30 sxs cement.

36. I	hereby certify that the	foregoing and attached information	n is complete and correct as	s determined from all av	/ailable records.
-------	-------------------------	------------------------------------	------------------------------	--------------------------	-------------------

NAME (PLEASE PRINT) CARA MAHLER
SIGNATURE

TITLE REGULATORY ANALYST

DATE 9/19/2012

This report must be submitted within 30 days of

- completing or plugging a new well
- · drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\*\*ITEM 24: Cement Top - Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining

1594 West North Temple, Suite 1210

Box 145801

Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

<sup>\*</sup> ITEM 20: Show the number of completions if production is measured separately from two or more formations.

#### 1 General

#### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

#### 1.2 Well/Wellbore Information

Well	NBU 1022-13M2CS BLUE	Wellbore No.	OH	
Well Name	NBU 1022-13M2CS	Wellbore Name	NBU 1022-13M2CS	
Report No.	1	Report Date	4/25/2012	
Project	UTAH-UINTAH	Site	WHITE RIVER PAD	
Rig Name/No.		Event	RECOMPL/RESEREVEADD	
Start Date	4/25/2012	End Date	6/29/2012	
Spud Date	10/29/2007	Active Datum	RKB @5,306.00usft (above Mean Sea Level)	
UWI	NBU 1022-13M-2CS			

#### 1.3 General

Contractor	Job Method	Supervisor	
Perforated Assembly	Conveyed Method		

#### 1.4 Initial Conditions

Fluid Type		Fluid Density	·
Surface Press		Estimate Res Press	
TVD Fluid Top		Fluid Head	
Hydrostatic Press		Press Difference	
Balance Cond	NEUTRAL		

### 1.5 Summary

Gross Interval	5,424.0 (usft)-6,315.0 (usft	Start Date/Time	4/25/2012	12:00AM
No. of Intervals	8	End Date/Time	4/25/2012	12:00AM
Total Shots	66	Net Perforation Interval		22.00 (usft)
Avg Shot Density	3.00 (shot/ft)	Final Surface Pressure		
		Final Press Date		

#### 2 Intervals

#### 2.1 Perforated Interval

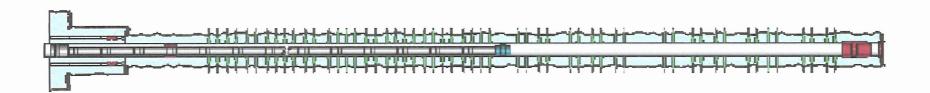
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T MD Top S (usft)	(usft)	Shot Density (shot/ft)		/pe /Stage No Carr Size (in)	Phasing (	Charge Desc /Charge Charge Reason Misrun  Manufacturer Weight (gram)
4/25/2012	WASATCH/	\$ *	5,424.0	5,426.0	3.00	0.360 EXP/	3.375	120.00	23.00 PRODUCTIO
12:00AM	i	į			j				N

#### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
4/25/2012 12:00AM	WASATCH/			5,493.0	5,495.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/25/2012 12:00AM	WASATCH/			5,623.0	5,626.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/25/2012 12:00AM	WASATCH/			5,778.0	5,779.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/25/2012 12:00AM	WASATCH/			5,794.0	5,796.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/25/2012 12:00AM	WASATCH/			5,955.0	5,959.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/25/2012 12:00AM	WASATCH/			6,300.0	6,305.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/25/2012 12:00AM	WASATCH/			6,312.0	6,315.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

#### 3 Plots

#### 3.1 Wellbore Schematic



## **Operation Summary Report**

Well: NBU 1022-13M2CS BLUE		Spud Date: 10/29/2007				
Project: UTAH-UINTAH	Site: WHITE RIVER PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3				
Event: RECOMPL/RESEREVEADD	Start Date: 4/25/2012	End Date: 6/29/2012				

Active Datum: RKB @5,306.00usft (above Mean Sea

UWI: NBU 1022-13M-2CS

Level)	(B (@5,500	.oousii (ab	Ove Ivicals O	<del>s</del> a				
Date		me t-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
5/2/2012	400	7:15	0.25	ABANDZ	48		Р	HSM - JSA
	7:15	- 17:00	9.75	ABANDZ	31	1	P	NDWH, NUBOP, MIRU SCAN TECH, POOH SCAN L/D ON FLOAT 258 JTS 2 3/8" J-55 TBG, 189 JTS YELLOW 69 JTS (2,167") RED, RDMO SCAN TECH, MIRU J-W WIRELINE RIH W/ GAUGE RING & TRASH BASKET TO 6,415' NO TIGHT SPOTS CAME BACK CLEAN, RIH SET HAL 10K CBP @ 6,365', RDMO J-W, R/D FLOOR & TBG EQUIP, NDBOP, NUFV, SDFN
5/3/2012		· 14:45	4.83	ABANDZ	33	С	P	MIRU B & C QUICK TEST PRESS TEST FRAC VALVES & CSG TO 1,000 PSI FOR 15 MIN INC 12 PSI, 3,500 PSI FOR 15 MIN LOST 34 PSI, TRY TO PUMP UP TO 6,200 PSI, CAN'T GET ABOVE 5,900 PSI LOSES 1,000 PSI MIN, RDMO B & C, MIRU J-W WRELINE, RIH SET HAL 10K CBP @ 6,320, RDMO J-W, MIRU B & C, CAN'T BUILD ABOVE 5,900 PSI LOSES 1,000 PSI MIN, RDMO B & C
5/4/2012	7:00	- 18:00	11.00		30			RD ON 1022-13M1S MOVE OVER AND RU RIG  ND FRAC VALVES NU BOPES, RU FLOOR TONGS ETC PU WEATHERFORD 4 1/2 HD PKR, RIH WITH SAME @ 137 JTS 2 3/8" TBG TO 4318' SET PKR. RU B & C QUICK TEST ATTEMPT TO PRESSURE TEST CBP @ 6320' PRESSURED TBG TO 1900 PSI HAD COMMUNICATION W/ CSG, TEST DOWN CSG TO 4100 PSI SLOW BLEED OFF, MOVED PRK TO 4285, RESET PKR PRESSUED UP TBG, @ 1900 PSI HAD COMMUNICATION WITH CSG. PRESSURE CSG TO 4200 PSI, LOST 2200 PSI IN 45 MIN, WITH NO COMMUNICATION WITH TBG( CALLED ZACH GARRITTY WILL NOT FRAC THIS WELL )  POOH LD 137 JTS 2 3/8" TBG @ PKR. PKR LOOKED NEW
5/22/2012	7:00	. 7.15	0.25	FLOWBK	48		P	NEW RD FLOOR TONGS ETC, ND BOPES INSTALLED TREE RD RIG & CIRCULATING EQUIP MOVED TO UPPER PAD CREWS TRAVEL HSM-JSA

	-13M2CS BLUE						Spud Date: 10	12812001
Project: UTAH-U	JINTAH		Site: WHI	TE RIVE	R PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
vent: RECOMP	PL/RESEREVEADD		Start Date	: 4/25/20	012			End Date: 6/29/2012
ctive Datum: Ri evel)	KB @5,306.00usft (ab	ea	UWI: N	BU 1022-	13M-2CS			
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 15:30	8.25	FLOWBK	33	С	P		P/U WEATHERFORD 4 1/2" PKR RIH W/ 119 JTS 2 3/8" L-80 OFF FLOAT, SET PKR @ 3,708.12'.
								BRK CIRC W/ RIG PUMP, R/U B&C QUICK TEST, PRESS TEST DWN TBG @ 5,595 PSI, LOST 30 PSI IN 10 MIN, TEST DWN CSG @ 4,296 PSI LOST 1,000 PSI IN 1 MIN.RELEASE PKR POOH W/ 44 JTS
								SET PKR @ 2,340.17', PRESS TEST DWN TBG @ 4,366 PSI LOST 500 PSI IN 1 MIN, RELEASE PKR RIH W/ 22 JTS.
								SET PKR @ 3,023.81' PRESS TEST DWN TBG @ 4,226 PSI LOST 1,000 PSI IN 1 MIN, PRESS TEST DWN CSG LOST 20 PSI IN 5 MIN, RELEASE PKR RIH W/ 10 JTS.
								SET PKR @ 3,336.66' PRESS TEST DWN TBG @ 4,525 PSI, LOST 15 PSI IN 5 MIN, RELEASE PKR POOH W/ 6 JTS.
			·					SET PKR @ 3,149.51', PRESS TEST DWN TBG @ 4,530 PSI, LOST 22 PSI IN 5 MIN, RELEASE PKR POOH W/ 2 JTS.
								SET PKR @ 3,085.99', PRESS TEST DWN TBG @ 4,517 PSI, LOST19 PSI IN 5 MIN, RELEASE PKR POOH W/ 1 JT.
								SET PKR @ 3,054.88', PRESS TEST DWN TBG @ 4,470 PSI, LOST 17 PSI IN 5 MIN,RELEASE PKR POOH 16'.
								SET PKR @ 3,038.88', PRESS TEST DWN TBG @ 4,523 PSI, LOST 17 PSI IN 5 MIN.
								HOLE IN CSG BETWEEN 3,023' & 3,038'.
								POOH W/ TBG L/D PKR, SWIFN
5/23/2012	7:00 - 7:15	0.25	RDMO	48		P		SENT 189 JTS ( 5,942.92') 2 3/8" J-55 YELLOW BAND TO SAMUELS YARD HSM-JSA
	7:15 - 9:00	1.75	RDMO	31	I	P		RIH W/ 119 JTS (3,692.39') 2 3/8" L-80 TBG, LAND TBG, NDBOP, NUWH, RDMO
5/31/2012	7:00 - 7:15	0.25	FLOWBK	48	_	P -		HSM-JSA
	7:15 - 15:00	7.75	FLOWBK	51	С	Р		MIRU YESTERDAY, NDWH, NUBOP, POOH W/ 10 STANDS TBG EOT @ 3,081', R/U HALIBURTON, PRESS TEST TO 5,000 PSI, PUMP 20 BBL FRESH WATER SPACER FOLLOWED BY 30 SKS FINECEM (13 LB/GAL, 4.12 GAL/SK) POOH W/ 12 STANDS EOT @ 2,335', REV CIRC 20 BBLS, PMP 1 BBL PRESS UP TO 1,950 PSI LOST 35 PSI IN 30 MIN,
	7:00 - 15:00	8.00	FLOWBK	46	В	P		RDMO HALIBURTON, SHUT WELL IN UNTIL MONDAY STANDBY WAIT ON CEMENT UNTIL MONDAY

### **Operation Summary Report**

Well: NBU 1022-13M2CS BLUE

Spud Date: 10/29/2007

Project: UTAH-UINTAH

Site: WHITE RIVER PAD

Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3

Event: RECOMPL/RESEREVEADD

Start Date: 4/25/2012

End Date: 6/29/2012

Active Datum: RKB @5,306.00usft (above Mean Sea

UWI: NBU 1022-13M-2CS

Date		Time tart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/4/2012	7:00	- 7:15	0.25	FLOWBK	48		Р		HSM-JSA
	7:15	- 16:00	8.75	FLOWBK	33	С	P		SICP 1,160 PSI, SITP 1,160 PSI, BLEED OFF PRESS, POOH W/ 75 JTS TBG, P/U 3 7/8" PDC BIT RIH W/ 91 JTS 2 3/8" L-80 TAG TOC @ 2,841', R/U PWR SWIVEL BRK CIRC, D/O 248' CMT FELL FREE @ 3,089', CIRC WELL CLEAN, R/D PWR SWIVEL, POOH STAND BACK TBG, R/D FLOOR & TBG EQUIP, NDBOP, NU TEST FLANGE, MIRU B&C QUICK TEST, PRESS TEST CSG @ 1,027 PSI LOST 22 PSI IN 15 MIN, @ 3,563 PSI LOST 21 PSI IN 15 MIN, @ 6,276 PSI LOST 71 PSI IN 30 MIN, R/D B&C, ND TEST FLANGE, NUBOP, R/U FLOOR & TBG EQUIP, RIH W/ 119 JTS 2 3/6" L-80 TBG, HANG OFF TBG EOT @ 3,712.22', R/D FLOOR & TBG EQUIP, NDBOP, NUWH, SWI, TOO WINDY TO RIG DOWN, RDMO IN AM
3/26/2012	12:00	- 16:00	4.00	FRAC	31	1	P		MIRU, NDWH, NUBOP, POOH STD BACK 119 JTS TBG, SWIFN
3/27/2012	7:00	- 7:15	0.25	FRAC	48		Р		HSM-JSA
	7:15	- 18:00	10.75	FRAC	37	В	P		NDBOP, NUFV, MIRU B&C QUICK TEST PRESS TEST FV 6,200 PSI LOST 50 PSI IN 10 MIN, RD B&C, MIRU CUTTERS RIH W/ PERF GUNS STACK OUT @ 6,173' (142' ABOVE BTM PERF) POOH R/D CUTTERS, NDFV, NUBOP, P/U 3 7/8" BIT RIH W/ 59 STDS TBG P/U TBG OFF FLOAT CONT TO RIH TO 6,173' PUSH PLUG DOWN TO ISO PLUG @ 6,320', REV CIRC HOLE CLEAN, POOH L/D 31 JTS TBG STD BACK 172 JTS, R/D FLOOR & TBG EQUIP, NDBOP, NUFV, R/U FLOOR, SWIFN
3/28/2012	7:00	- 7:15	0.25	FRAC	48		Р		HSM-JSA

8/15/2012 12:54:20PM

3

#### **Operation Summary Report**

Well: NBU 1022-13M2CS BLUE		Spud Date: 10/29/2007
Project: UTAH-UINTAH	Site: WHITE RIVER PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: RECOMPL/RESEREVEADD	Start Date: 4/25/2012	End Date: 6/29/2012
	0 10AM NDLL 1022 12M 2CC	

Active Datum: RKB @5,306.00usft (above Mean Sea

JWI: NBU 1022-13M-2CS

Level)

Date	S	Time tart-End	Duration (hr)	Phase	Code	Sub Code		MD From Operation (usft)	Charleston Carlo
	7:15	- 16:00	8.75	FRAC	36	В	Р	MIRU CUTTERS & SUPERIOR	

PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE.120 DEG PHASING. RIH PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.

PRESS TEST FRAC LINES TO 7,265 PSI LOST 655 PSI IN 15 MIN POP OFF SET @ 6,100 PSI.

FRAC STG 1)WHP 113 PSI, BRK 3,515 PSI @ 3.8 BPM. ISIP 1147 PSI, FG .62.
CALC PERFS OPEN @ 45.2 BPM @ 3,899 PSI = 71% HOLES OPEN. (17/24 HOLES OPEN)
ISIP 1,958 PSI, FG .75, NPI 811 PSI.
MP 3,969 PSI, MR 46.5 BPM, AP 3,534 PSI, AR 43.7 BPM,
PUMPED 30/50 OWATTA SAND. SWI, X-OVER FOR WI..

PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 5,989' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.

FRAC STG 2)WHP 188 PSI, BRK 2,500 PSI @ 3.8 BPM. ISIP 1,475 PSI, FG .69.
CALC PERFS OPEN @ 43.1 BPM @ 5,634 PSI = 62% HOLES OPEN. (13/21 HOLES OPEN)
ISIP 1,803 PSI, FG .75, NPI 328 PSI.
MP 5,917 PSI, MR 48 BPM, AP 4,304 PSI, AR 42.8 BPM,
PUMPED 30/50 OWATTA SAND. SWI, X-OVER FOR WL.

PERF STG 3)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 5,656' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.

FRAC STG 3)WHP 232 PSI, BRK 1,904 PSI @ 3.6 BPM. ISIP 401 PSI, FG .51.

CALC PERFS OPEN @ 46.4 BPM @ 3,839 PSI = 71% HOLES OPEN. (15/24 HOLES OPEN)
ISIP 1,420 PSI, FG .70, NPI 1,019 PSI.

MP 4,142 PSI, MR 52.3 BPM, AP 3,595 PSI, AR 51.3 BPM,
PUMPED 30/50 OWATTA SAND. SWI. X-OVER FOR

WL.

PU 4 1/2 8K HAL CBP. RIH SET CBP @ 5,374'. POOH, SWI. DONE FRACING THIS WELL.

TOTAL SAND = 70,100 LBS TOTAL CLFL = 2,173 BBLS

Vell: NBU 1022	-13M2CS BLUE						Spud Date: 10	/29/2007
roject: UTAH-l	JINTAH		Site: WH	ITE RIVE	R PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
vent: RECOMI	PL/RESEREVEADD		Start Date	e: 4/25/20	012	T		End Date: 6/29/2012
	KKB @5,306.00usft (al	oove Mean S				13M-2CS	· · · · · · · · · · · · · · · · · ·	
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/29/2012	7:00 - 7:15	0.25	DRLOUT	48	<u> </u>	P		RDMO CUTTERS & SUPERIOR, NDFV, NUBOP, P/U 3 7/8" BIT PUMP OPEN BIT SUB & XN SN, RIH W/ TBG TO KILL PLUG @ 5,374'. PRESS TEST BOP TO 3,000 PSI LOST 0 PSI IN 15 MIN, SWIFN. HSM-JSA
	7:15 - 15:30	8.25	DRLOUT	44	C	Р		R/U PWR SWIVEL, BRK CIR W/ RIG PUMP.  C/O 5' SAND TAG PLUG #1 @ 5,374' DRL HAL 8K  CBP IN 12 MIN 0 PSI INC FCP 50 PSI. RIH TAG FILL @ 5,636'.
								R/U WEATHERFORD FOAM UNIT BRK CIRC.
								C/O 30' SAND TAG PLUG #2 @ 5,656' DRL HAL 8K CBP IN 10 MIN 100 PSI INC FCP 250 PSI, RIH TAG FILL @ 5,964'.
								C/O 25' SAND TAG PLUG #3 @ 5,989' DRL HAL 8K CBP IN 10 MIN, 300 PSI INC, FCP 450 PSI, RIH TAG FILL @ 6,300'.
								WASH DWN TO ISO PLUG @ 6,320' CIRC WELL CLEAN, R/D PWR SWIVEL, POOH L/D 3 JTS LAND TBG W/ 200 JTS 2 3/8" L-80 EOT @ 6,245.80'. R/D FLOOR & TBG EQUIP, NDBOP, NUWH, DROP BALL PUMP OPEN BIT SUB @ 1,200 PSI, CIRC WELL W/ FOAM UNIT, R/D FOAM UNIT, RDMO, TURN WELL OVER TO FBC, SDFWE.
								KB-19' HANGER83' 200 JTS 2 3/8" L-80 - 6,222.67' PUMP OPEN BIT SUB-3.30' EOT@6,245.80'
								TWTR=2,373 BBLS TWR=650 BBLS TWLTR=1,723 BBLS

			DEPAR DIVISI	RTMEN	ATE C FOF NA FOIL,	TURAL	. RESO	URCES MINING	s G				(hig	hlight	change SIGNATI	ON AND S	FORM 8 ERIAL NUMBER:
WELL	COM	<b>IPLET</b>	ION	OR F	RECO	MPL	ETIO	N R	EPOR	TANE	LOG		6. IF	INDIAN,	ALLOTT	EE OR TR	BE NAME .
1a. TYPE OF WELL:					BAS Z		DRY [		отн					NIT or CA		MENT NAI	AE .
b. TYPE OF WORK NEW	: HORIZ. [ LATS. [		EP-	] ¦	RE- NTRY	]	DIFF. RESVR.	<b>Z</b>	отн	RECO	OMPLETIC	)N	1		022-	<sub>UMBER:</sub> 13M2C	s
2. NAME OF OPERA KERR MC	TOR:	u & GA	SON	ISHOF	RE. L.P								****	PI NUMB 43047		8	
3. ADDRESS OF OP P.O.BOX 17	ERATOR:			NVEF			СО	ZIP <b>802</b>	217		NUMBER: 0) 929-6	304		NATU	RAL	OR WILDO	ES
4. LOCATION OF W AT SURFACE:	ELL (FOOT	AGES) V 1552 F	SL12	89 FV	/L S13									TRIOTR MERIDIAI NSW			SHIP, RANGE,
AT TOP PRODUC	CING INTE	RVAL REPO	RTED BE	LOW: S	wsw	815 F	SL 42	4 FW	L S13,	T10S,R	22E		10.	COUNTY			13. STATE
AT TOTAL DEPT	H: SW	SW 696	FSL:	331 F\	VL S13	3,T10	S,R22	E					1 .	JINTA			UTAH
14. DATE SPUDDED 10/29/2007		15. DATE T 12/20		HED:	16. DATE 7/2/	COMPL 2012	ETED:	ļ	ABANDONI	5D 🗌	READY TO F	PRODUCE	<b>Z</b>	17. ELEVATIONS (DF, RKB, RT, GL): 5287 GL			
18. TOTAL DEPTH:	MD 8	,495 .241		19. PLUG	BACK T.D		8,450 8,196		20. IF 1	AULTIPLE CO	OMPLETIONS	S, HOW M	ANY?*	21. DEF Pi	TH BRID .UG SET	GE ME	6,320
22. TYPE ELECTRIC			IICAL LO	GS RUN (	Submit cop	y of each	)			WAS DST	L CORED? RUN? NAL SURVE	(?	NO NO NO	<b>V</b>	YES _ YES _ YES _	(Sut	omit analysis) omit report) omit copy)
24. CASING AND LI	NER RECO	RD (Report	all string	s set in w	ell)										,		
HOLE SIZE	SIZE/G	RADE	WEIGHT	Γ (#/ft.)	TOP (	MD)	вотто	M (MD)		EMENTER PTH	CEMENT T NO. OF SA		VOLUM		СЕМЕ	NT TOP *	* AMOUNT PULLE
20"	14"	STL	36.		C			0				28			ļ		
12 1/4" 7 7/8"	9 5/8" 4 1/2"	J-55 I-80	32#, 11.		0			170 195				1,050			<del>                                     </del>	310	
1116	7 1/2	1.00	11.	<u> </u>			<u> </u>										
25. TUBING RECOR										Lavores	D 057 (45)		SIZE	<del>- 1</del> .	DEDTH 6	ET (MD)	PACKER SET (MD
2 3/8"	-	,246	PACE	(ER SET (	MD)	SIZE		DEPTE	SET (MD)	PACKE	R SET (MD)		SIZE	<del>-    </del>	DEFINS	EI (MD)	PACKER SET (ME
26. PRODUCING IN		,,_ 10				<del> </del>	<del></del>			27. PERFO	RATION REC	ORD					· · · · · · · · · · · · · · · · · · ·
FORMATION	NAME	TOP	(MD)	вотто	OM (MD)	TOP	(TVD)	вотто	M (TVD)	INTERVA	L (Top/Bot - I	MD)	SIZE	NO. HO	LES	PERFC	RATION STATUS
(A) WASATC	H	5,	424	6,	315					5,424	6,	315	0.36	66	0	pen 🗾	Squeezed
(B)															0	pen 🗌	Squeezed
(C)															0	pen 🔃	Squeezed
(D)															0	pen 🗌	Squeezed
28. ACID, FRACTUR	RE, TREAT	MENT, CEM	ENT SQU	EEZE, ET	c.												<del> </del>
DEPTH	INTERVAL								AM	DUNT AND	YPE OF MAT	ERIAL					
5424-6315			PUN	MP 2,1	73 BE	LS S	LICK H	120 &	70,10	OLBS :	30/50 O	TAW	A SA	ND			
			3 S	TAGE	3												
																<del></del>	
29. ENCLOSED AT	TACHMENT	rs:														30. WE	LL STATUS:
		CHANICAL LO		CEMENT	VERIFICA	TION		GEOLOG CORE AN	IC REPOR		DST REPOR	т	DIREC	TIONAL	SURVEY		PROD

(CONTINUED ON BACK)

31. INITIAL PRO	DUCTION			int	ERVAL A (As show	wn in item #26)					
DATE FIRST PR	ODUCED:	TEST DATE:		HOURS TESTER	o: <b>24</b>	TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD: FLOWING	
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS	. API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS - MOF:	WATER - BBL:	INTERVAL STATUS: PROD	
	.J	1		INT	ERVAL B (As sho	wn in item #26)					
DATE FIRST PRODUCED: TEST DATE:			HOURS TESTE	D:	TEST PRODUCTION RATES: →	OIL BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:		
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	i OIL – BBL:	GAS MCF:	WATER - BBL:	INTERVAL STATUS:	
	<u></u>	<u></u>		INT	ERVAL C (As sho	wn in item #26)					
DATE FIRST PR	ODUCED:	TEST DATE:		HOURS TESTE	D:	TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:	
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS - MOF:	WATER - BBL:	INTERVAL STATUS:	
	.l			IN1	ERVAL D (As sho	wn in item #26)					
DATE FIRST PR	ODUCED:	TEST DATE:		HOURS TESTE	D:	TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:	
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS MCF:	WATER - BBL:	INTERVAL STATUS:	
Show all importatested, cushion to	int zones of porosi used, time tool ope	en, flowing and	shut-in pressures an					Name		Тор	
Formati	on	Top (MD)	Bottom (MD)	Descrip	otions, Contents, etc	D	·		(Measured Depth)		
							GREEN R BIRD'S NI MAHOGAI WASATCI MESAVER	EST NY H		1,034 1,284 1,676 4,144 6,423	
perforations 6320'. Test i 3023-3038.	s are: Wasatch nfo is produc Pumped 30 s	n 5424-631: tion from n xs cement.	5 ; existing per ew Wasatch p	forations: Mesa erforations. An	averde 6456-8 NOI will be su	as reported on the 437'. An iso pluid before the form all available rec	g separating ISO plug is d	new perforation	ons from old p	erforations is at	
				press and son				V ANAI VOT			
NAME (PLEAS	SE PRINT) CA	RA MAHL	.EK			TITLE REGULATORY ANALYST  DATE 9/19/2012					
SIGNATURE_		<u>~_/~</u>				DATE 9/13	7/2012				

This report must be submitted within 30 days of

- completing or plugging a new well
   drilling horizontal laterals from an existing well bore
   recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests
- \* ITEM 20: Show the number of completions if production is measured separately from two or more formations.
- \*\* ITEM 24: Cement Top Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to:

Utah Division of Oil, Gas and Mining 1594 West North Temple, Suite 1210

Box 145801

Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

801-359-3940 Fax:

Sundry Number: 30051 API Well Number: 43047394880000

	STATE OF UTAH		FORM 9		
ι	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	3	5.LEASE DESIGNATION AND SERIAL NUMBER: STUO-08512-ST		
SUNDR	Y NOTICES AND REPORTS ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
	posals to drill new wells, significantly deep reenter plugged wells, or to drill horizontal n for such proposals.		7.UNIT OF CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-13M2CS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	9. API NUMBER: 43047394880000				
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	PHC n Street, Suite 600, Denver, CO, 80217 377		9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1552 FSL 1289 FWL			COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSH	<b>IIP, RANGE, MERIDIAN:</b> 13 Township: 10.0S Range: 22.0E Meridian:	S	STATE: UTAH		
11. CHECI	K APPROPRIATE BOXES TO INDICATE N	ATURE OF NOTICE, REPOR	T, OR OTHER DATA		
TYPE OF SUBMISSION		TYPE OF ACTION			
7	ACIDIZE	ALTER CASING	CASING REPAIR		
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME		
9/19/2012	☐ CHANGE WELL STATUS	SLEASE DESIGNATION AND STUO-08512-ST  ORTS ON WELLS  initicantly deepen existing wells below in the completion and submitted a the new perforations were not or drill out the isolation plug to attached procedure. Thank you.  5. LEASE DESIGNATION AND STUO-08512-ST  6. IF INDIAN, ALLOTTEE OR TO TUNIT OR A AGREEMENT N. NATURAL BUTTES  8. WELL NAME and NUMBER: NBU 1022-13M2CS  9. API NUMBER: 43047394880000  9. FIELD and POOL or WILDC COUNTY: UINTAH  STATE: UTAH  TYPE OF ACTION    ALTER CASING			
SUBSEQUENT REPORT	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION		
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK		
SPUD REPORT Date of Spud:	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION		
	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON		
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL		
DRILLING REPORT	☐ WATER SHUTOFF ☐ :	SI TA STATUS EXTENSION	APD EXTENSION		
Report Date:	WILDCAT WELL DETERMINATION	OTHER	OTHER:		
12 DESCRIBE PROPOSED OR		rtinont dotails including dates, d	onthe volumes etc		
The operator had completion report of submitted the existic commingled. At this	as performed the recompletion on the subject well. When the coing perforations and the new persistence we would like to drill out prations. Please see attached p	and submitted a ompletion report was erforations were not the isolation plug to	Approved by the Utah Division of Oil, Gas and Mining  Date: October 09, 2012		
NAME (PLEASE PRINT) Cara Mahler	<b>PHONE NUMBER</b> 720 929-6029				
SIGNATURE N/A					

Sundry Number: 30051 API Well Number: 43047394880000

#### Workover - Isolation Plug Drillout

Name: NBU 1022-13M2CS

Location: SW NW SW SW Sec 13 T10S R22E

#### **Procedure Outline**

• MIRU, unland L-80 tbg and POOH (EOT @ 6246'). Scan tbg, once first joint fails (+30% wall loss), break every connection and visually inspect pins and upset. L/D any suspect jts.

- Take and submit solid sample to engineer if applicable.
- RIH w/ mill and C/O CBP @ 6365' and continue to C/O to 8450' (Be cautious of old POBS, last workover could only get to 8432') POOH.
- RIH and land EOT @ +/- 7395'. Broach tbg and ensure broach is full OD. Be careful not to over-torque any collars.

### **CONTACT INFORMATION**

FOREMAN	Jay Aguiniga	435-828-6460
LEAD MECHANICAL	Ryan Kunkel	435-828 -4624
OPTIMIZER	<b>Deven Oaks</b>	435-828-4631
OPERATOR	Josh Harrison	435-828-4271
OPERATOR	Kimberly Horrocks	435-823-6515
ENGINEER	Ben Smiley	936-524-4231

	STATE OF UTAH				FORM 9
ı	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND MI		i	5.LEASE DESIGNATION AND SER STUO-08512-ST	AL NUMBER:
SUNDR	RY NOTICES AND REPORTS	ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIB	E NAME:
	oposals to drill new wells, significantly reenter plugged wells, or to drill horiz n for such proposals.			7.UNIT or CA AGREEMENT NAME NATURAL BUTTES	i:
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER: NBU 1022-13M2CS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	9. API NUMBER: 43047394880000				
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4. LOCATION OF WELL FOOTAGES AT SURFACE: 1552 FSL 1289 FWL				COUNTY: UINTAH	
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 13 Township: 10.0S Range: 22.0E Me	ridian:	S	STATE: UTAH	
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE NA	ATURE OF NOTICE, REPOR	T, OR OTHER DATA	
TYPE OF SUBMISSION			TYPE OF ACTION		
	ACIDIZE	A	LTER CASING	CASING REPAIR	
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	□ c	HANGE TUBING	CHANGE WELL NAME	
Approximate date work will start.	CHANGE WELL STATUS	<b>√</b> c	OMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE	
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	□ F	RACTURE TREAT	NEW CONSTRUCTION	
11/5/2012	OPERATOR CHANGE	Пр	LUG AND ABANDON	PLUG BACK	
 	PRODUCTION START OR RESUME		ECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORM	IATION
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION		IDETRACK TO REPAIR WELL	TEMPORARY ABANDON	Allon
	TUBING REPAIR		ENT OR FLARE	WATER DISPOSAL	
DRILLING REPORT					
Report Date:	WATER SHUTOFF	⊔ s	I TA STATUS EXTENSION	APD EXTENSION	
	WILDCAT WELL DETERMINATION	o	THER	OTHER:	
On 11/5/2012 the	COMPLETED OPERATIONS. Clearly show a Iso-Plug set at 6320ft. Was inutes. This well is now con	as dr	illed out in seven	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ( March 26, 2014	ONLY
NAME (PLEASE PRINT)	PHONE NUM	BER	TITLE		
Teena Paulo	720 929-6236		Staff Regulatory Specialist		
SIGNATURE N/A			<b>DATE</b> 3/26/2014		